Linearno programiranje s dvije varijable

Matematika za ekonomiste 1

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Sadržaj

prvi zadatak

Zadatak 1

Poduzeće se bavi prodajom igračaka. Na tržište želi plasirati dvije nove igračke A i B. Obje igračke trebaju proći završnu fazu montaže. U jednom satu napravi se 10 *igrački A i* 24 *igrački B. Poduzeće ima na raspolaganju samo* 45 *radnih sati. Istraživanje tržišta je pokazalo da je potrebno najviše* 400 *komada igrački A, dok je igrački B potrebno napraviti u količini ne većoj od* 960 *komada. Prihod po igrački A je* 20 €*, a po igrački B* 18 €*. Odredite u kojem slučaju poduzeće ostvaruje maksimalni prihod uz navedena ograničenja.*

Rješenje

Oznake

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Oznake

$x \longrightarrow$ broj komada igrački A

Rješenje

Oznake

$x \longrightarrow$ broj komada igrački A

$y \longrightarrow$ broj komada igrački B

Rješenje

Oznake

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Funkcija prihoda

Rješenje

Oznake

$x \longrightarrow$ broj komada igrački A

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Funkcija prihoda

$$P = 20x + 18y$$

Rješenje

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$x \longrightarrow$ broj komada igrački A

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Ograničenja

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Ograničenja

- broj komada igrački je broj $\geqslant 0$

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\hline
\frac{1}{10} \text{ sati} \leftrightsquigarrow 1 \text{ igračka } A & /\cdot x \\
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\frac{1}{10}x \text{ sati} \leftrightsquigarrow x \text{ igrački } A & \\
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\end{array}$$

$$\frac{1}{10}x + \frac{1}{24}y \leqslant 45$$

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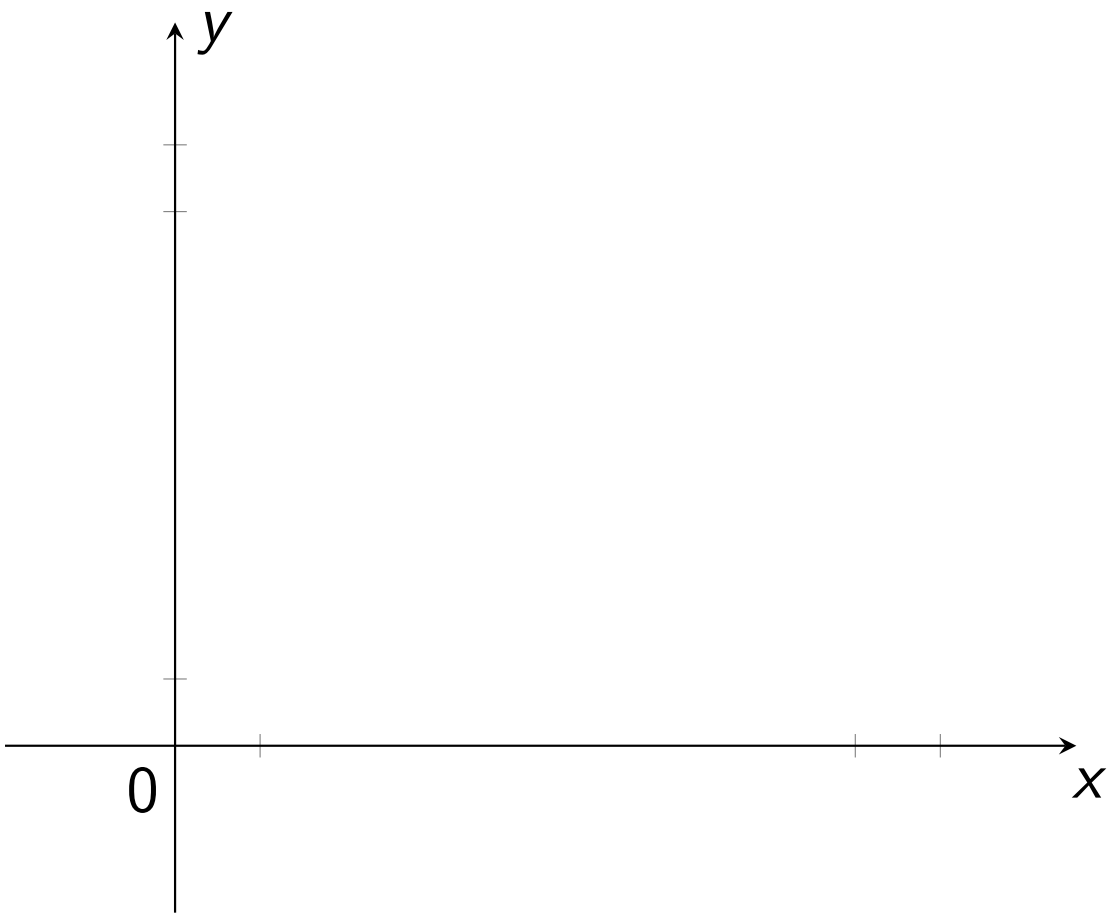

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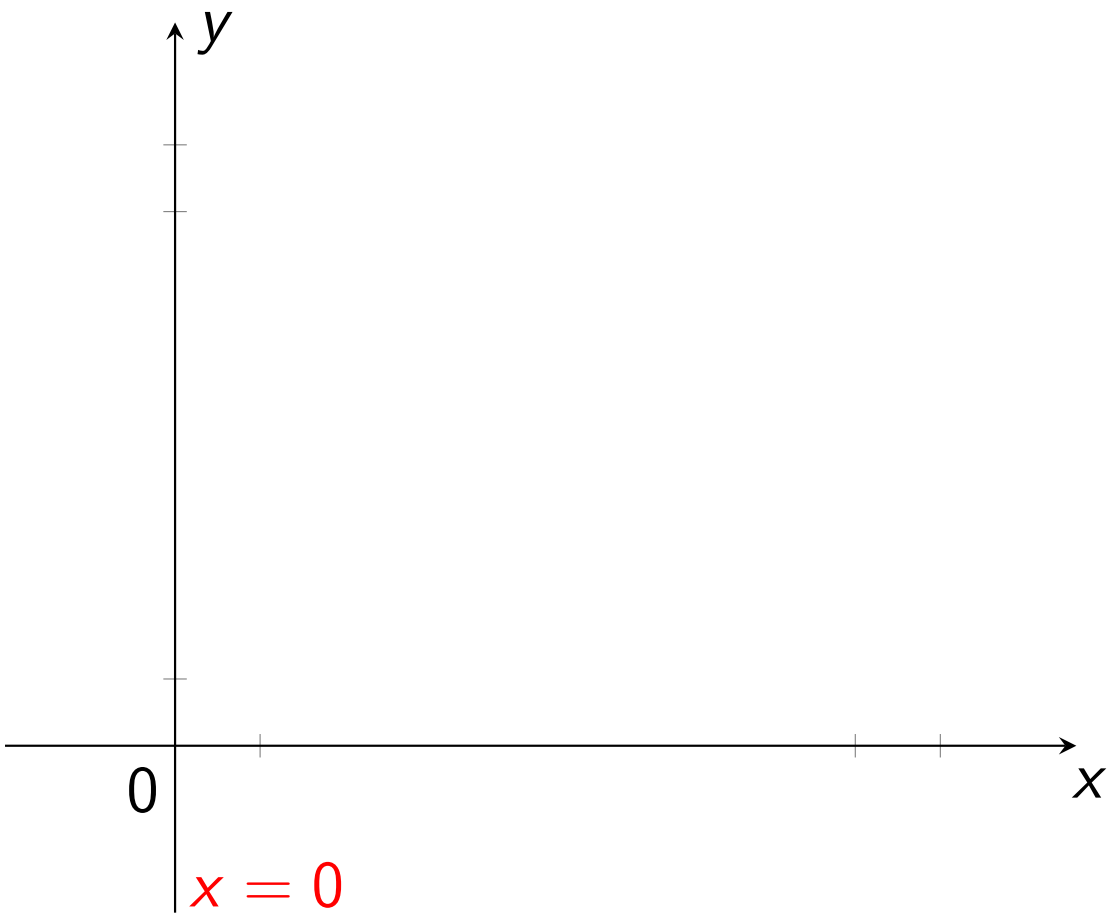

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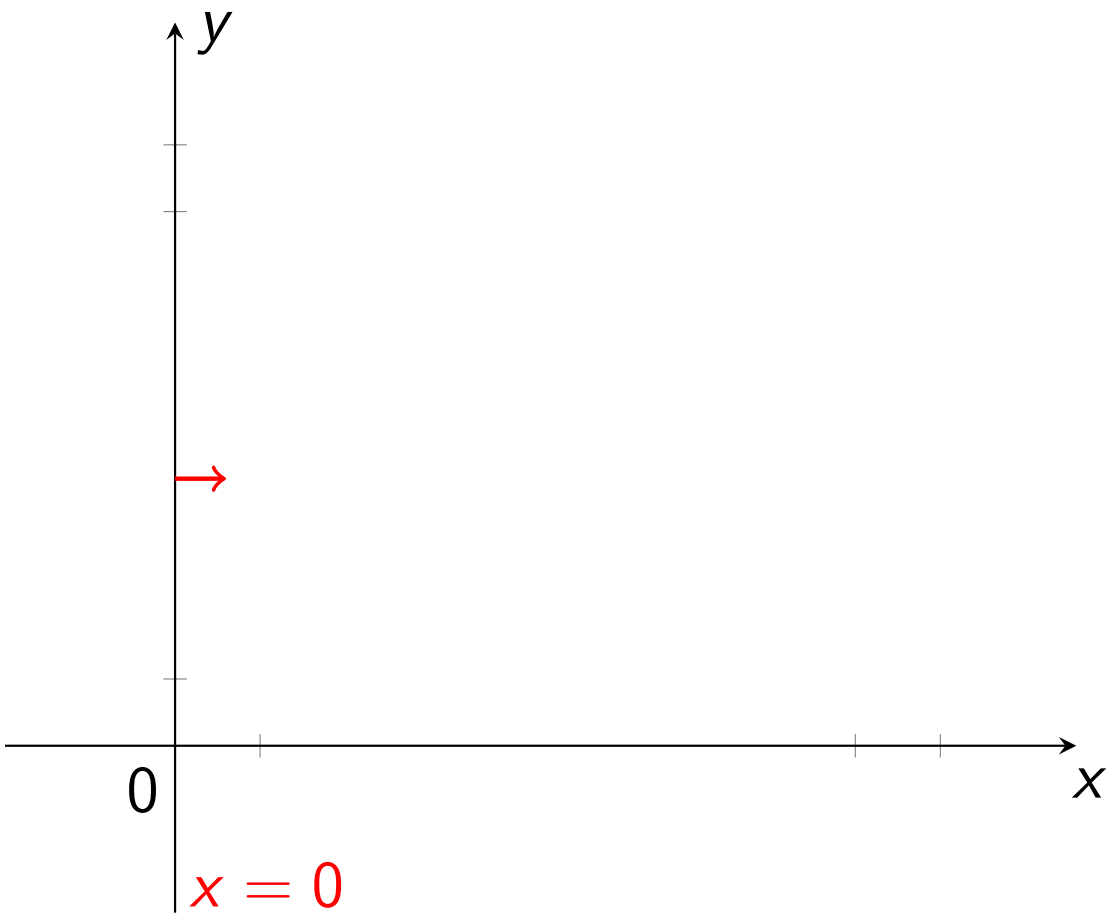

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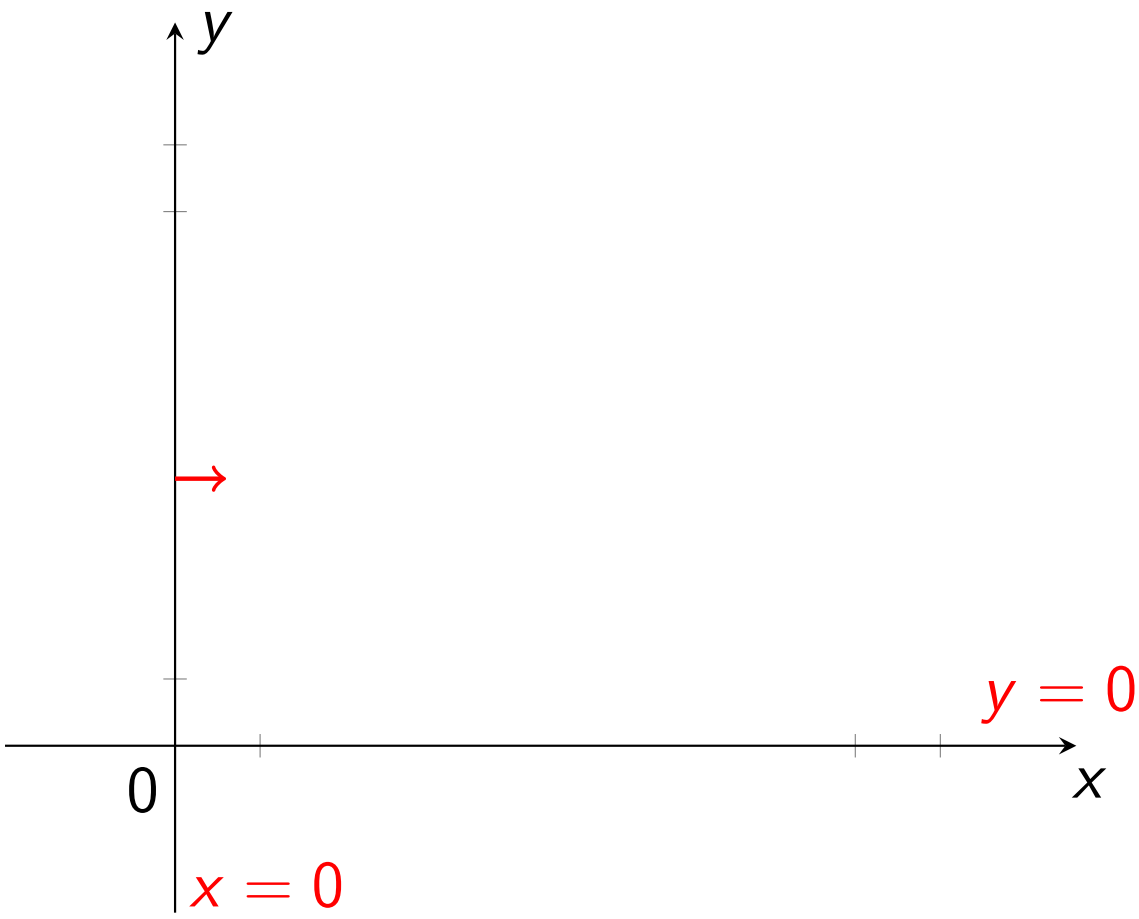

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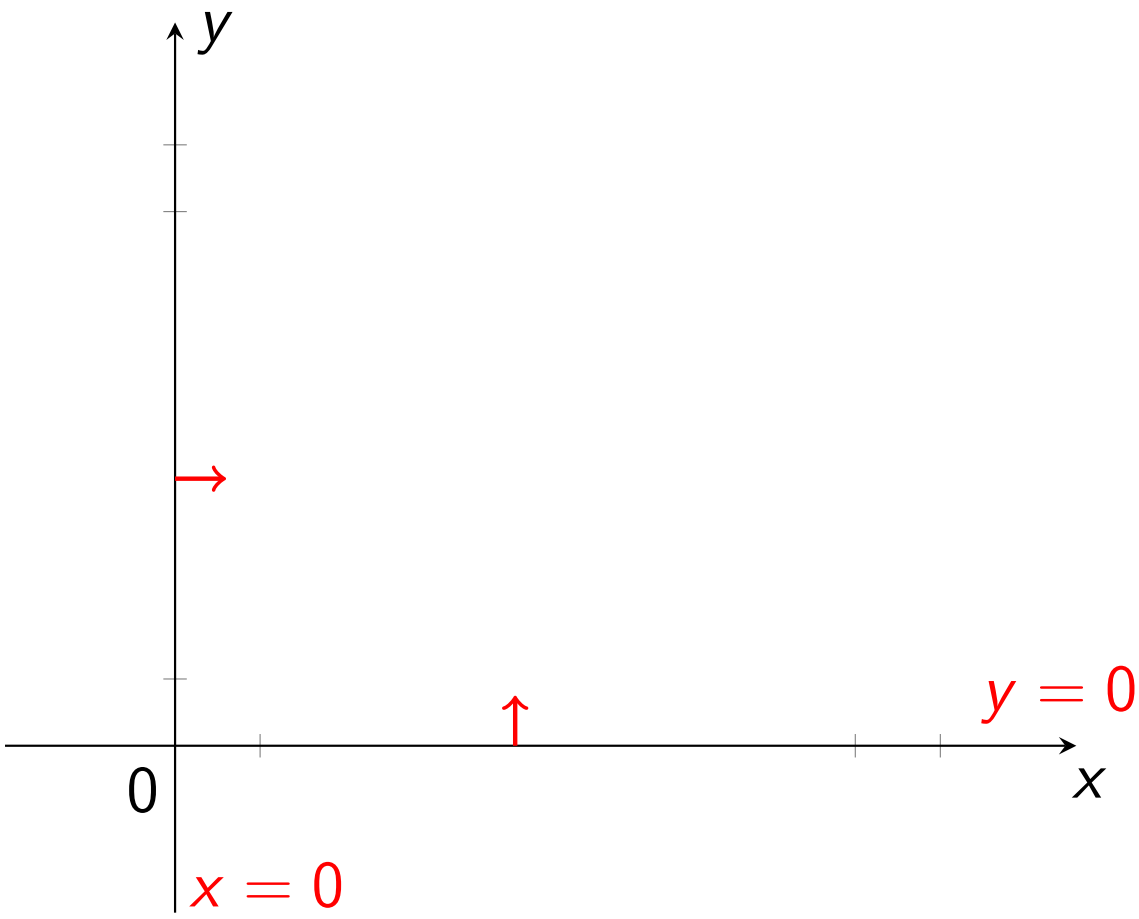

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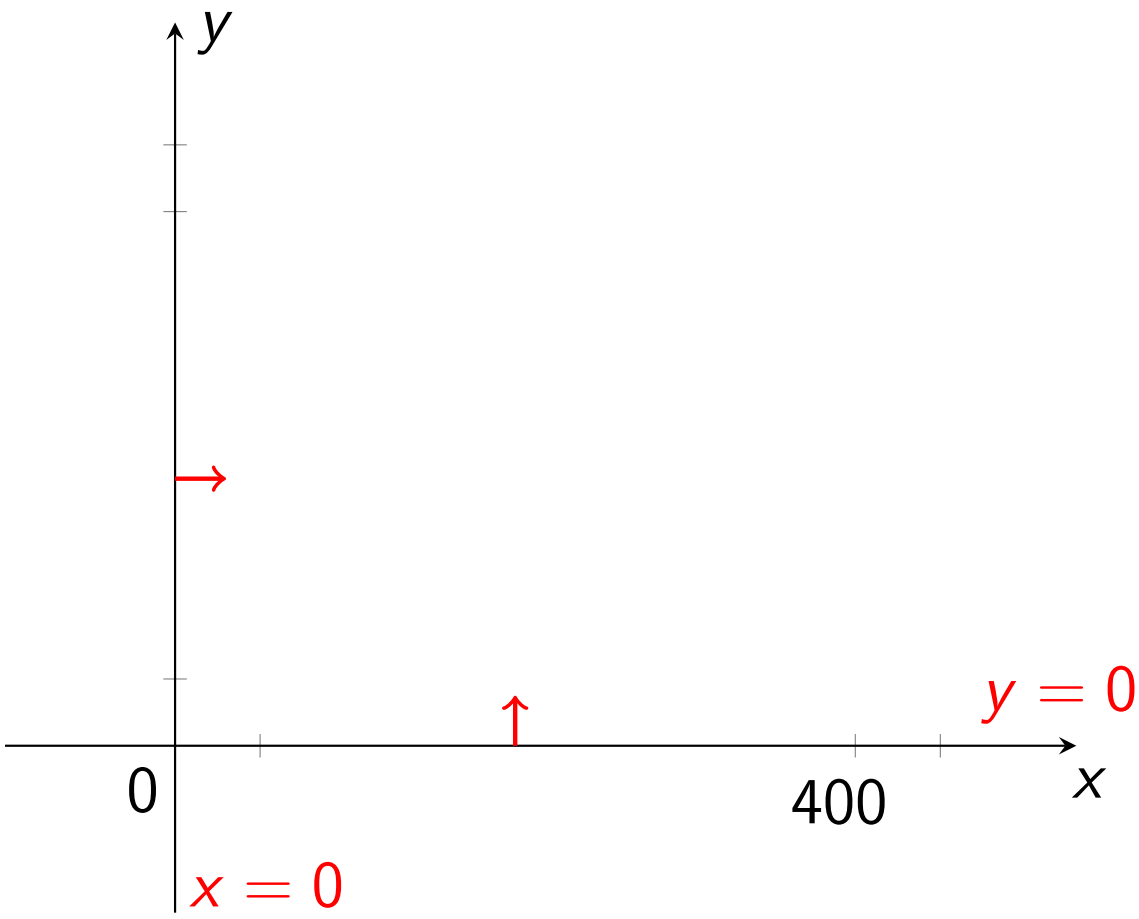

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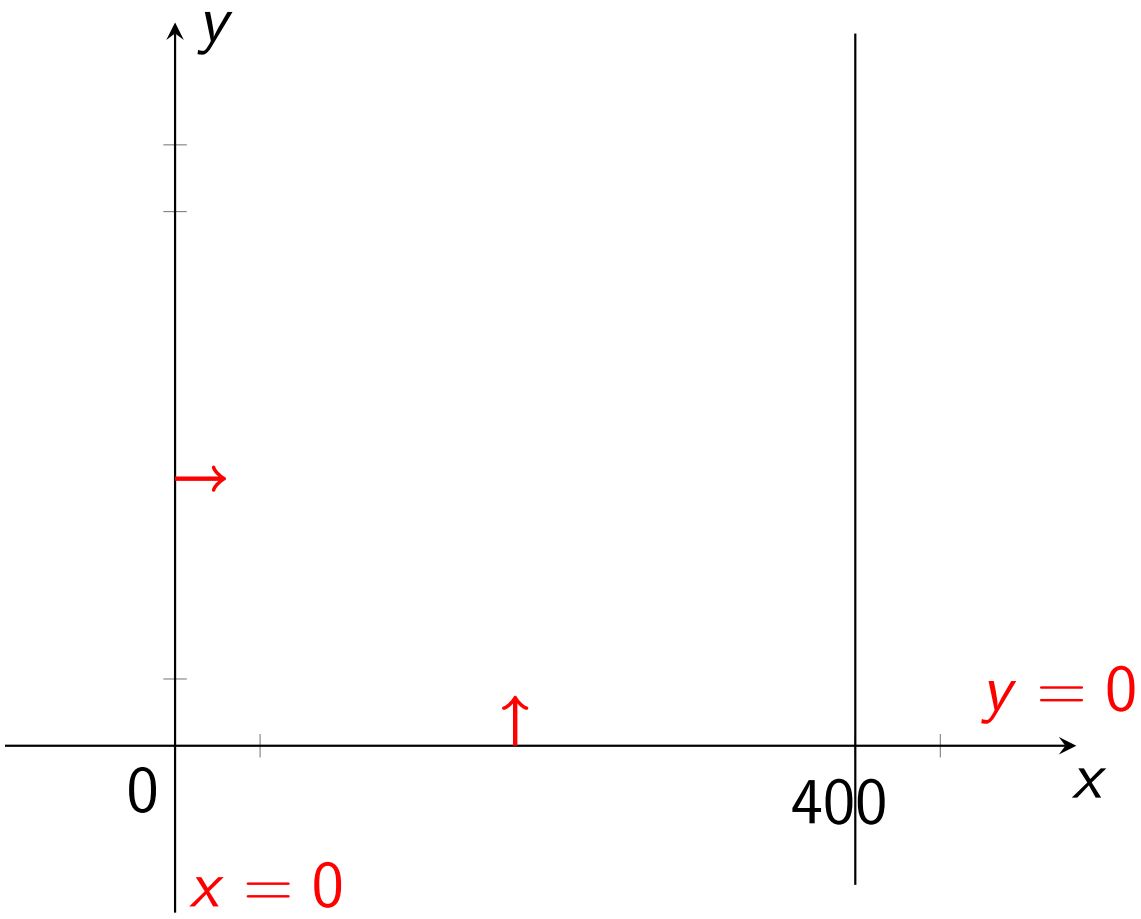

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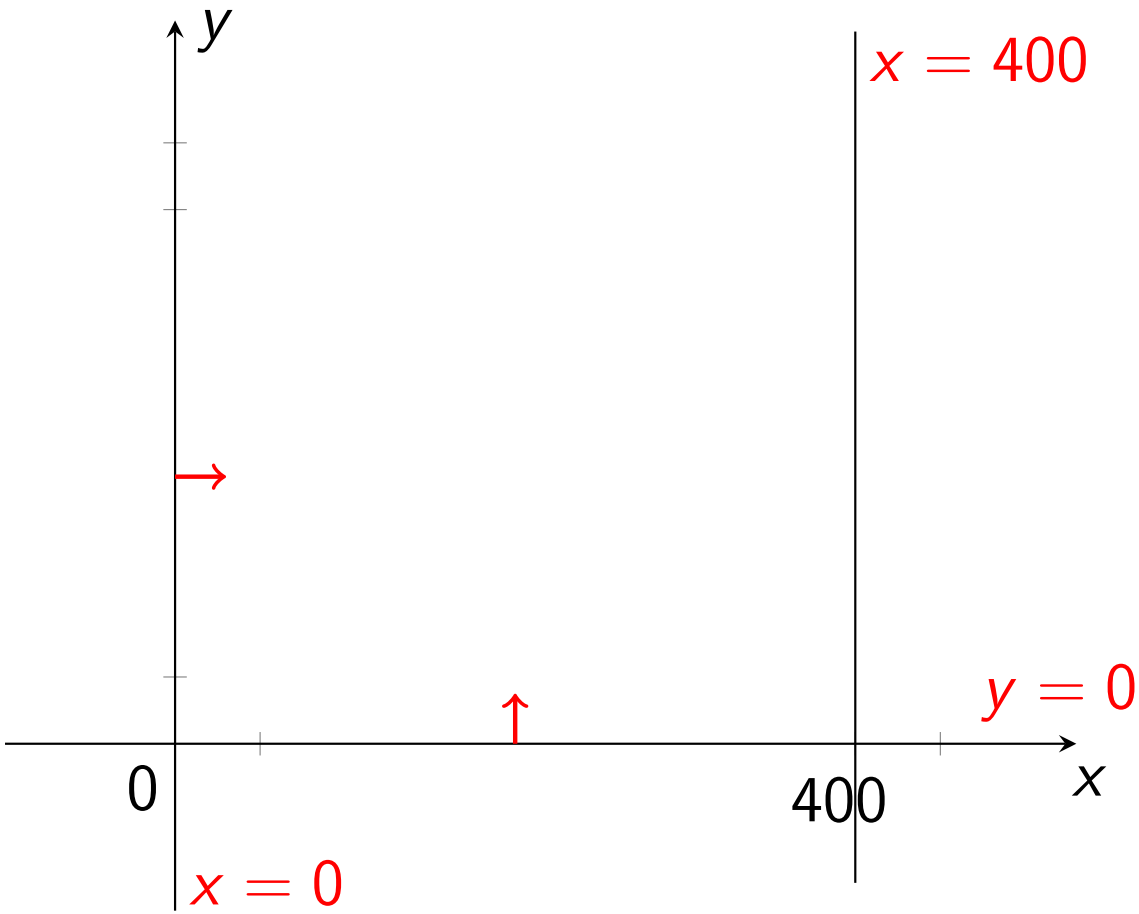

$$x \geqslant 0$$
$$y \geqslant 0$$
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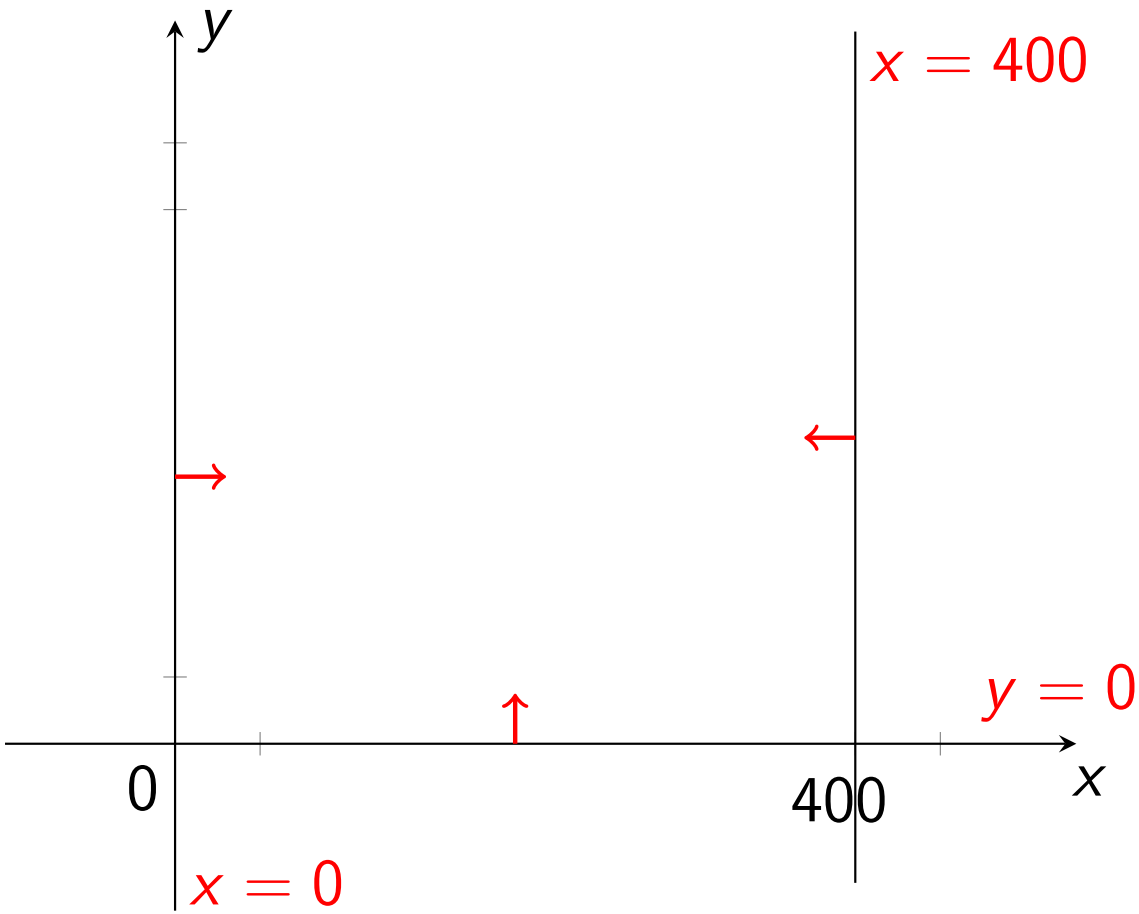

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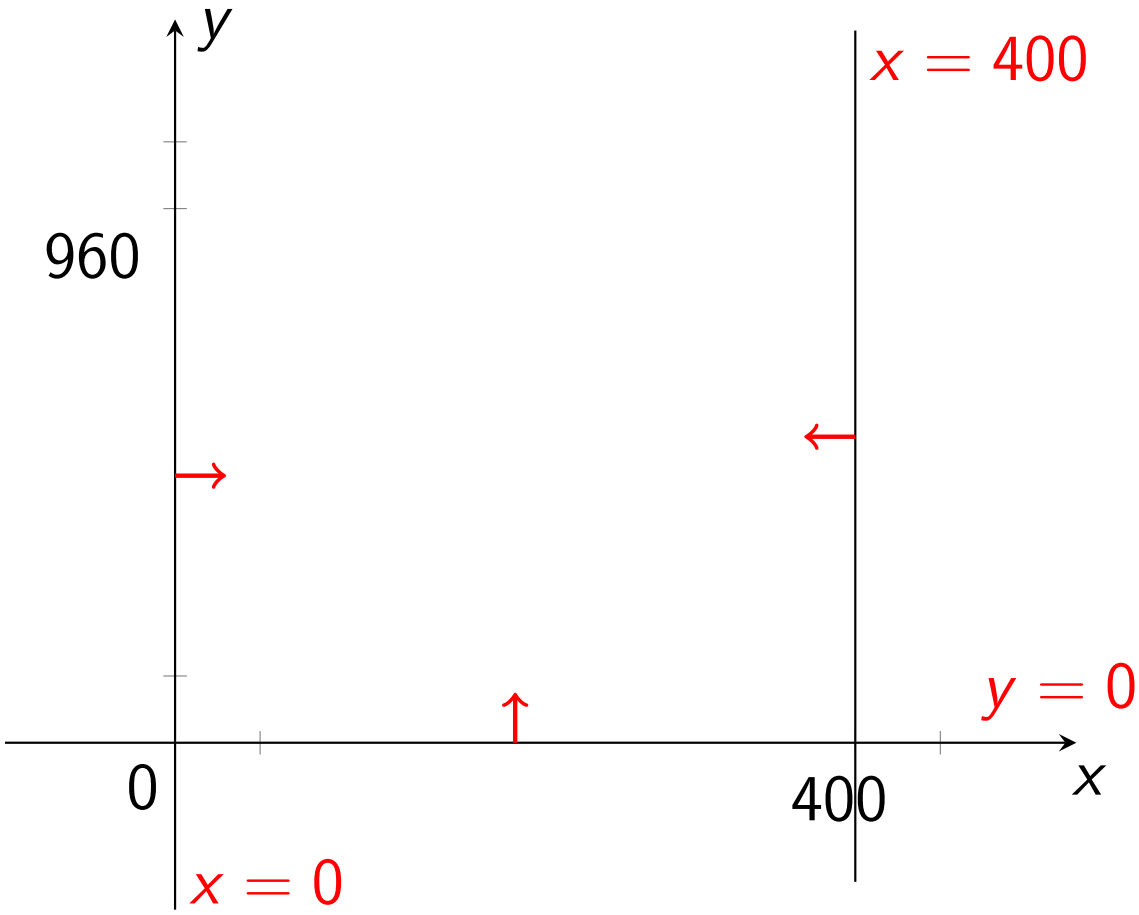

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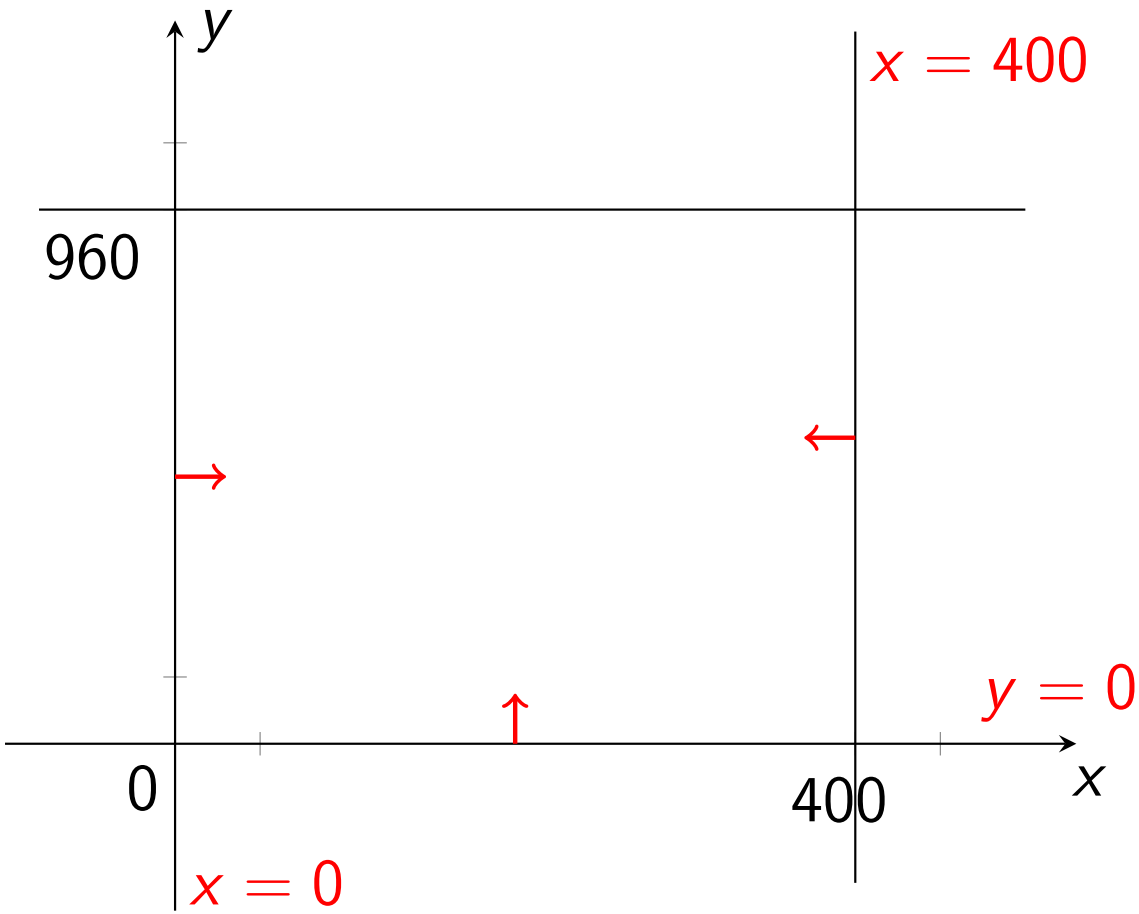

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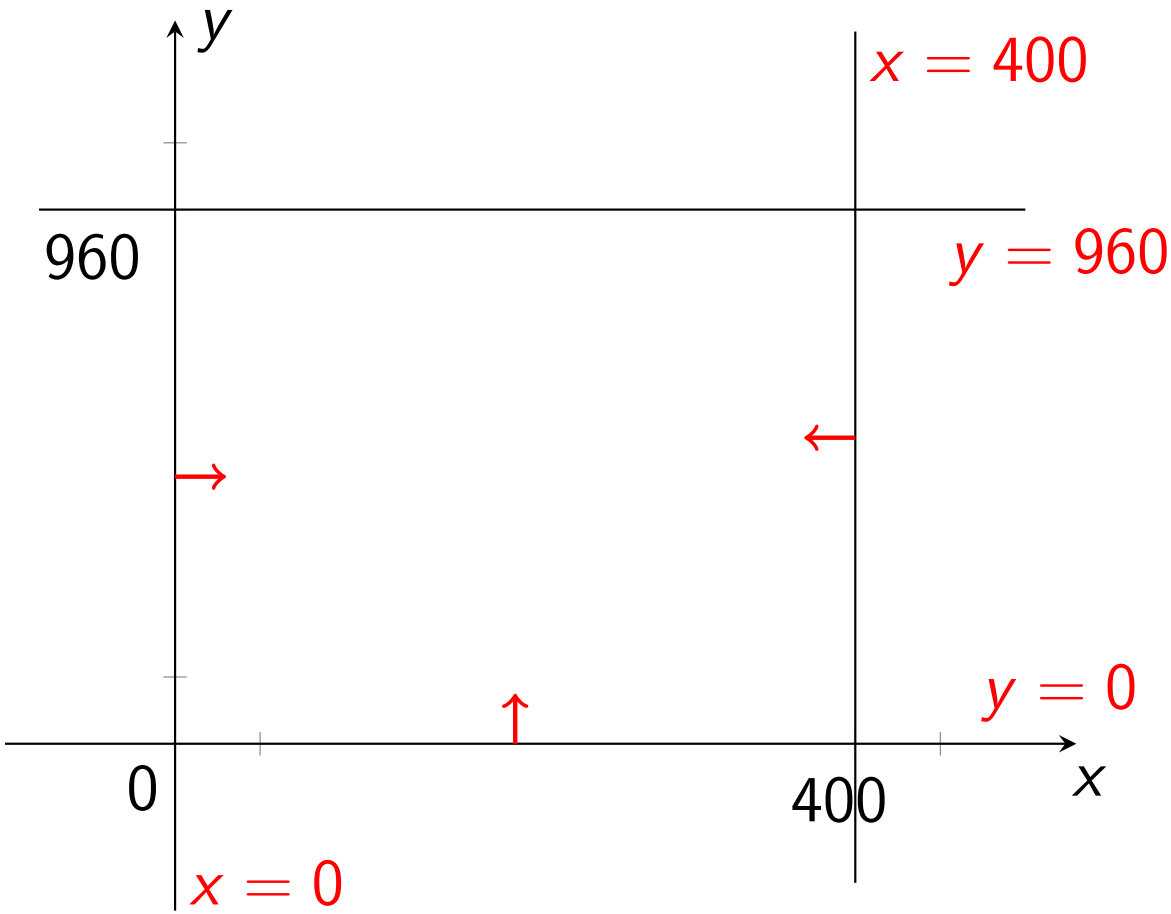

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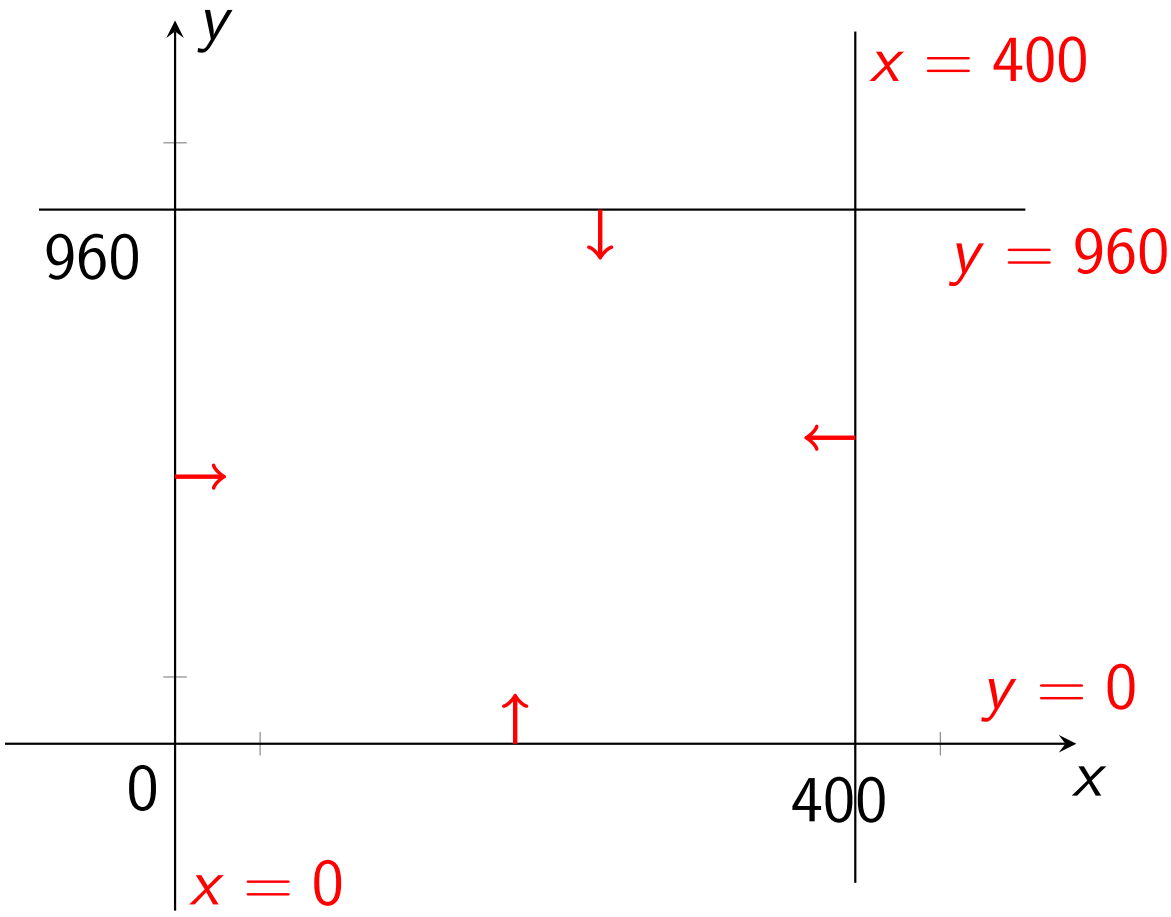

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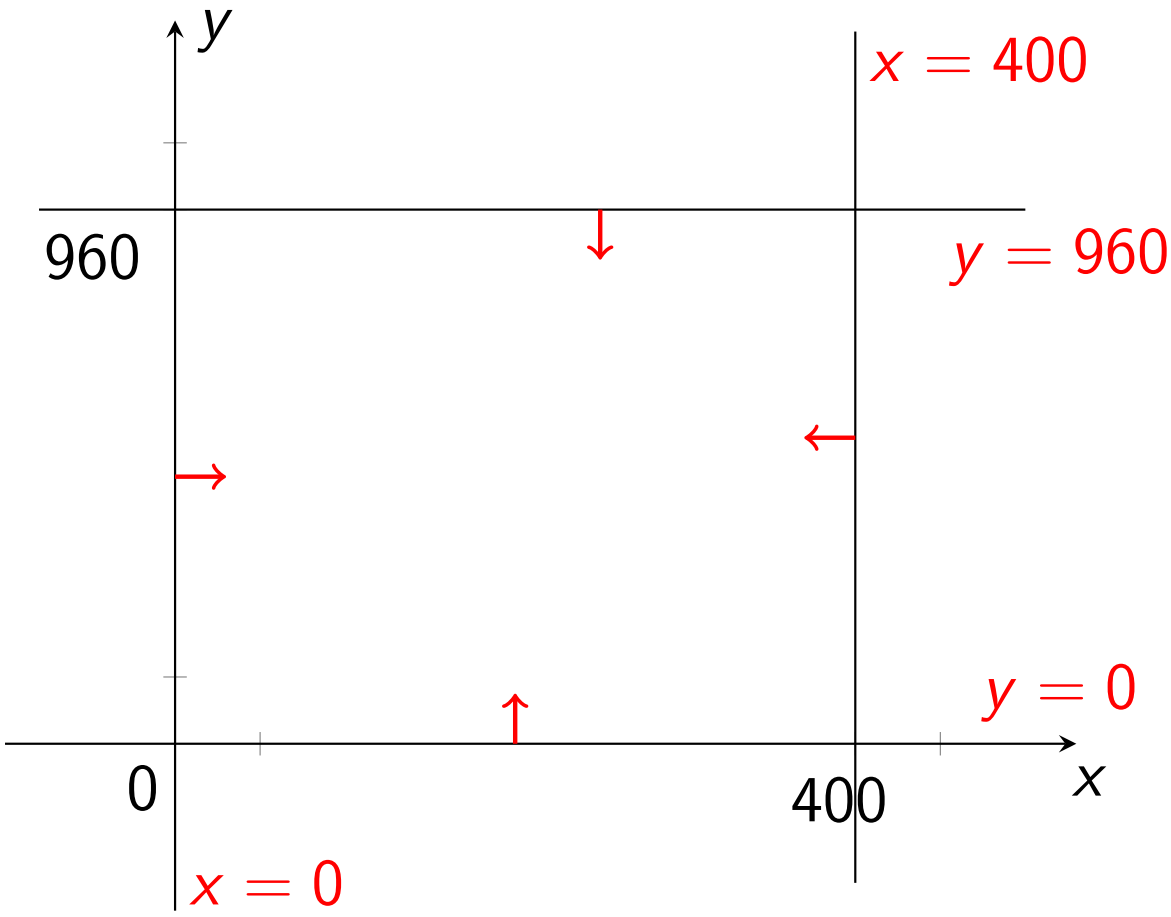

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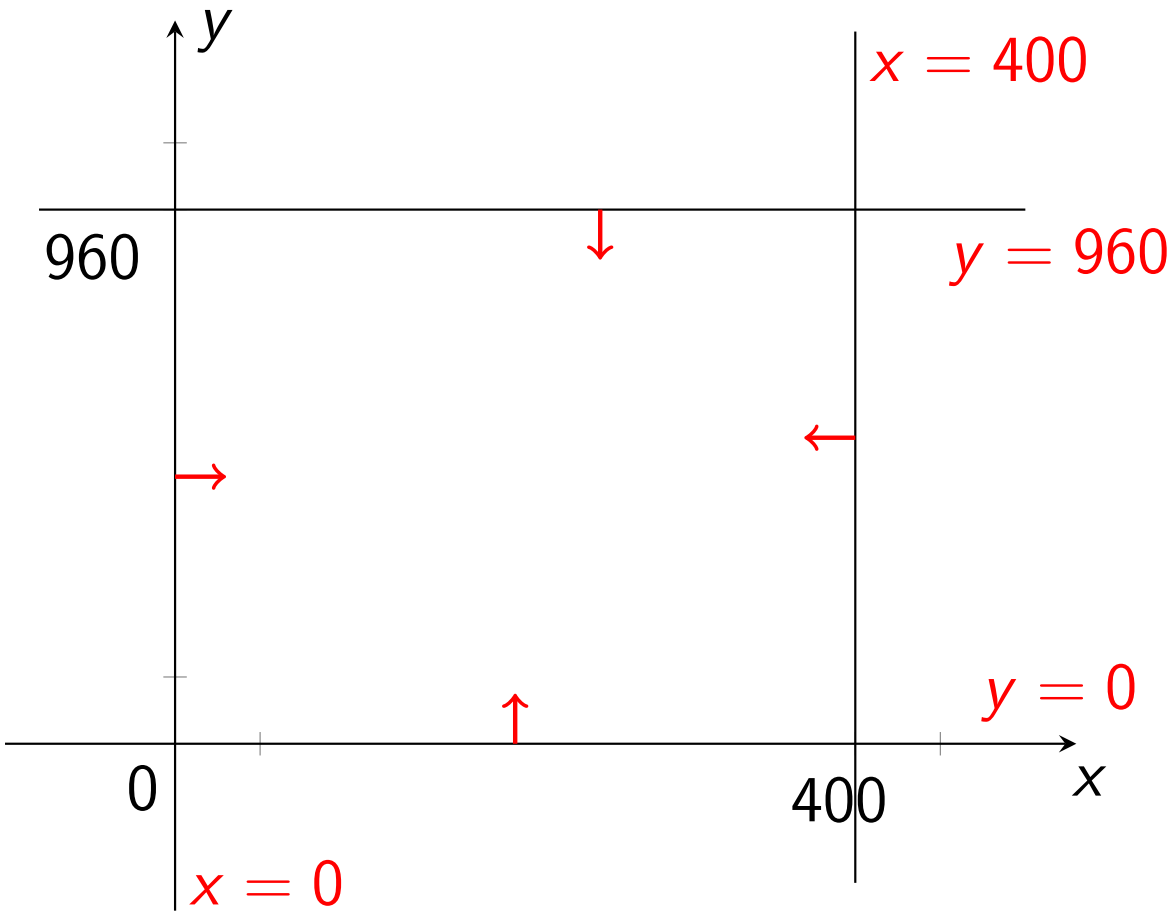
$$\frac{1}{10}x + \frac{1}{24}y = 45$$



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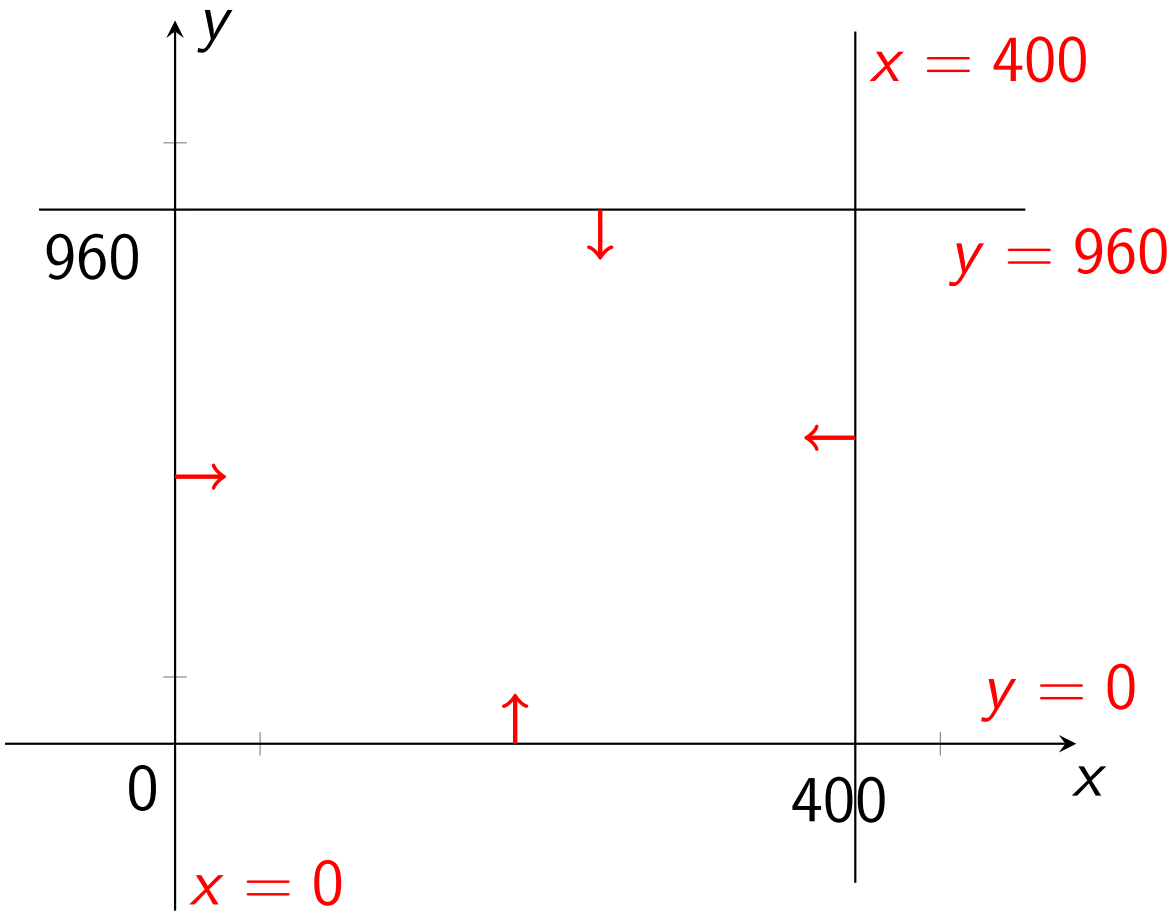
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0$



$$x \geqslant 0$$
$$y \geqslant 0$$
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$$y \leqslant 960$$
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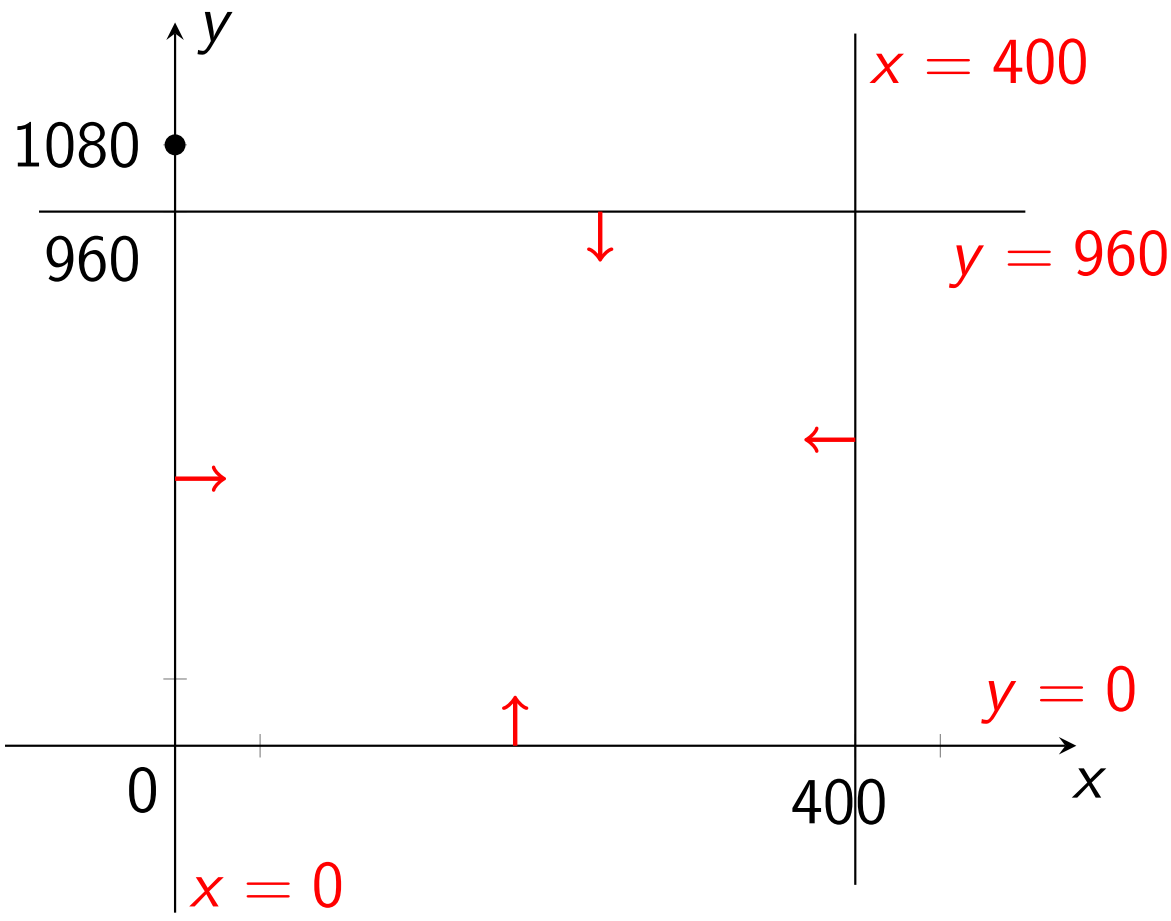
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$$x = 0 \rightsquigarrow y = 1080$$



$$x \geqslant 0$$
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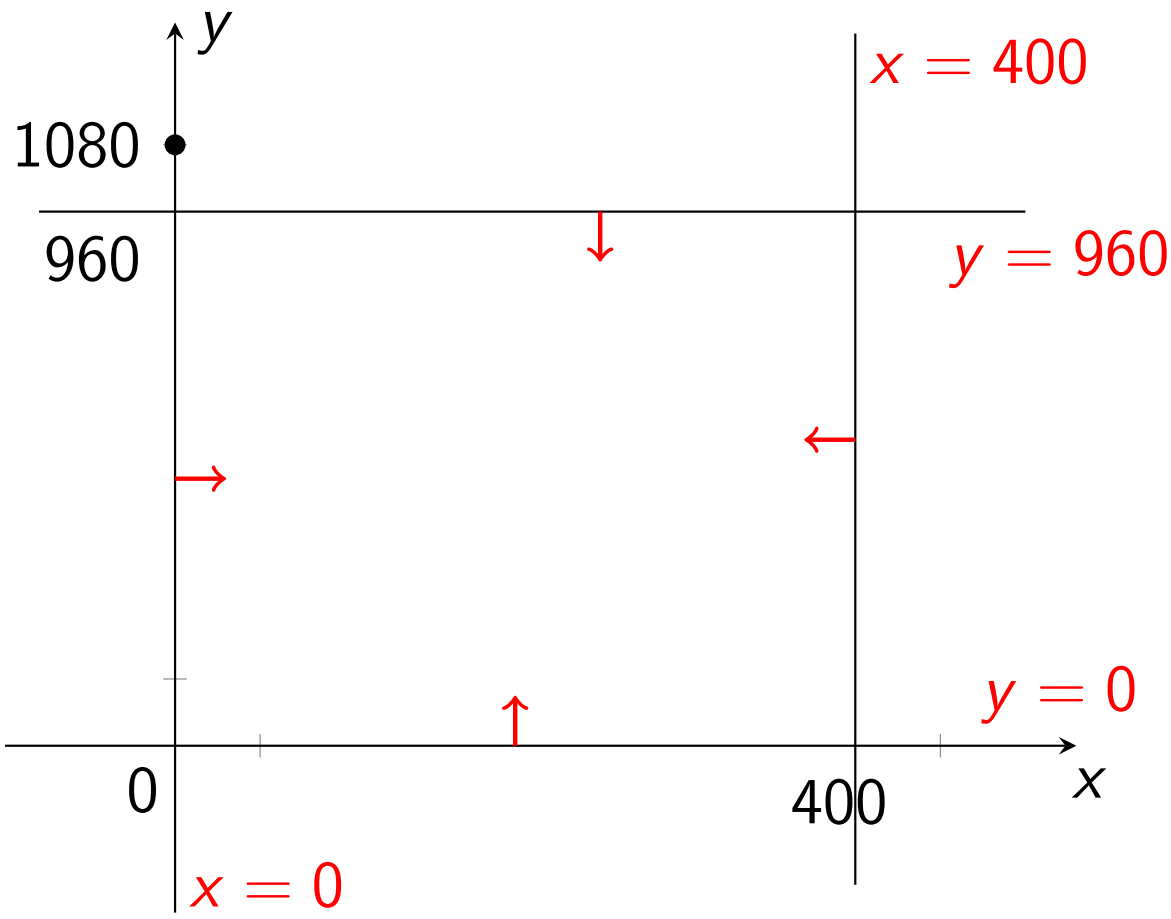
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$



$$x \geqslant 0$$
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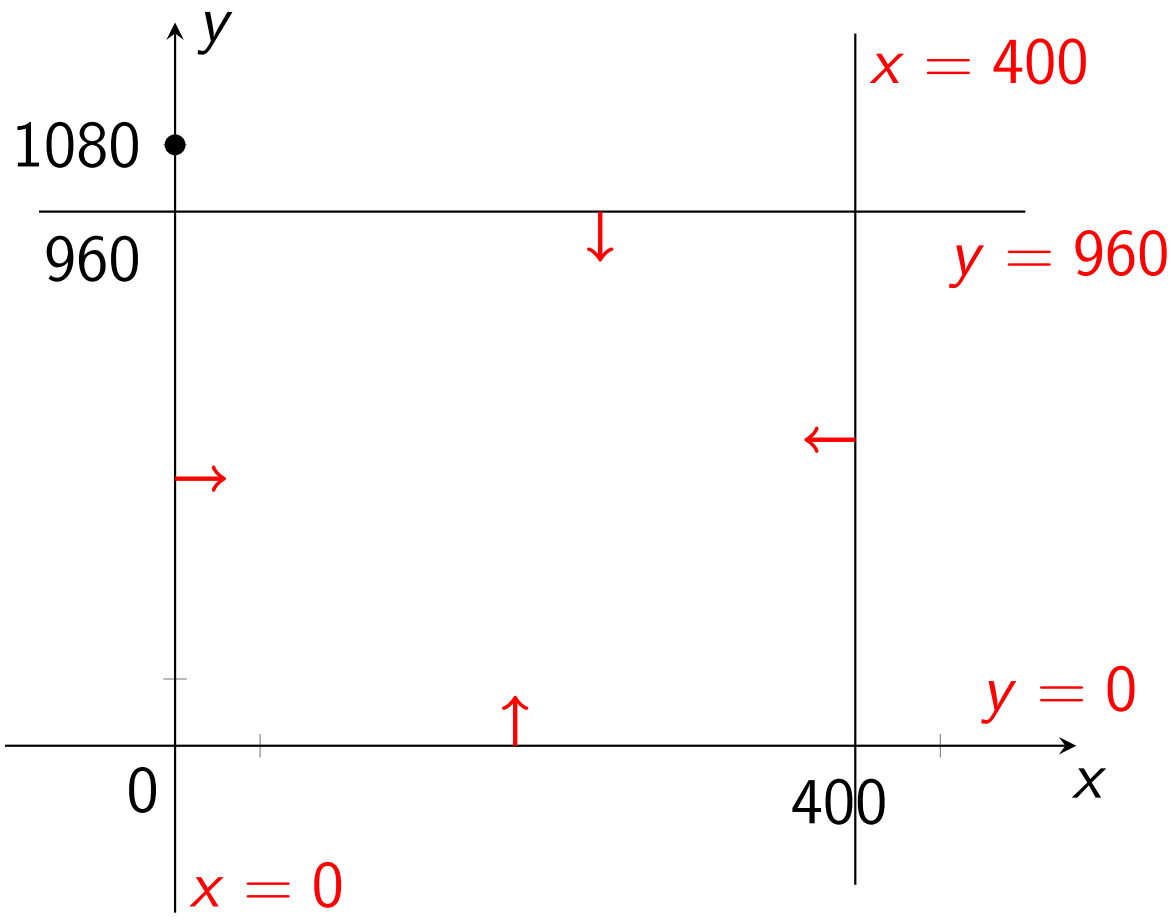
$$y \leqslant 960$$
$$\frac{1}{10}x + \frac{1}{24}y \leqslant 45$$

$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$

$y = 0$



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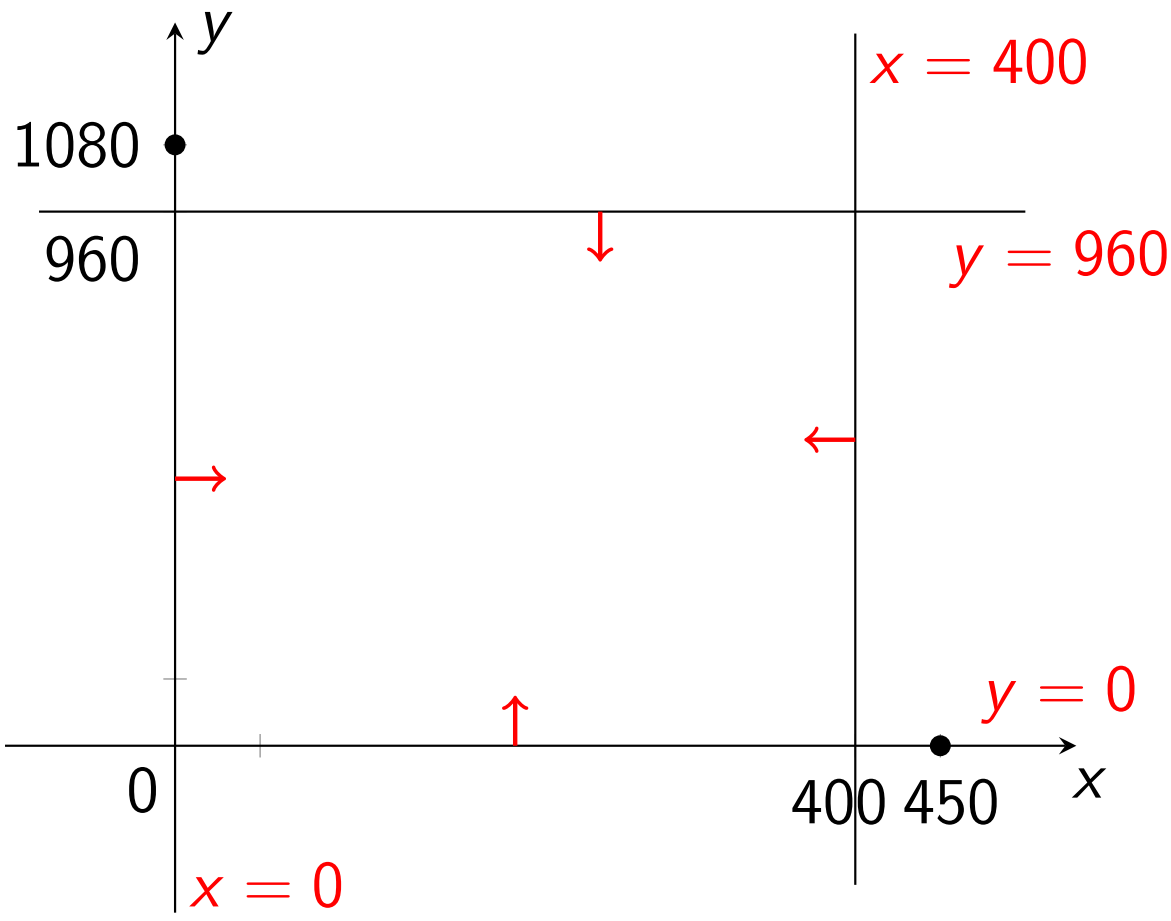
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$

$y = 0 \rightsquigarrow x = 450$



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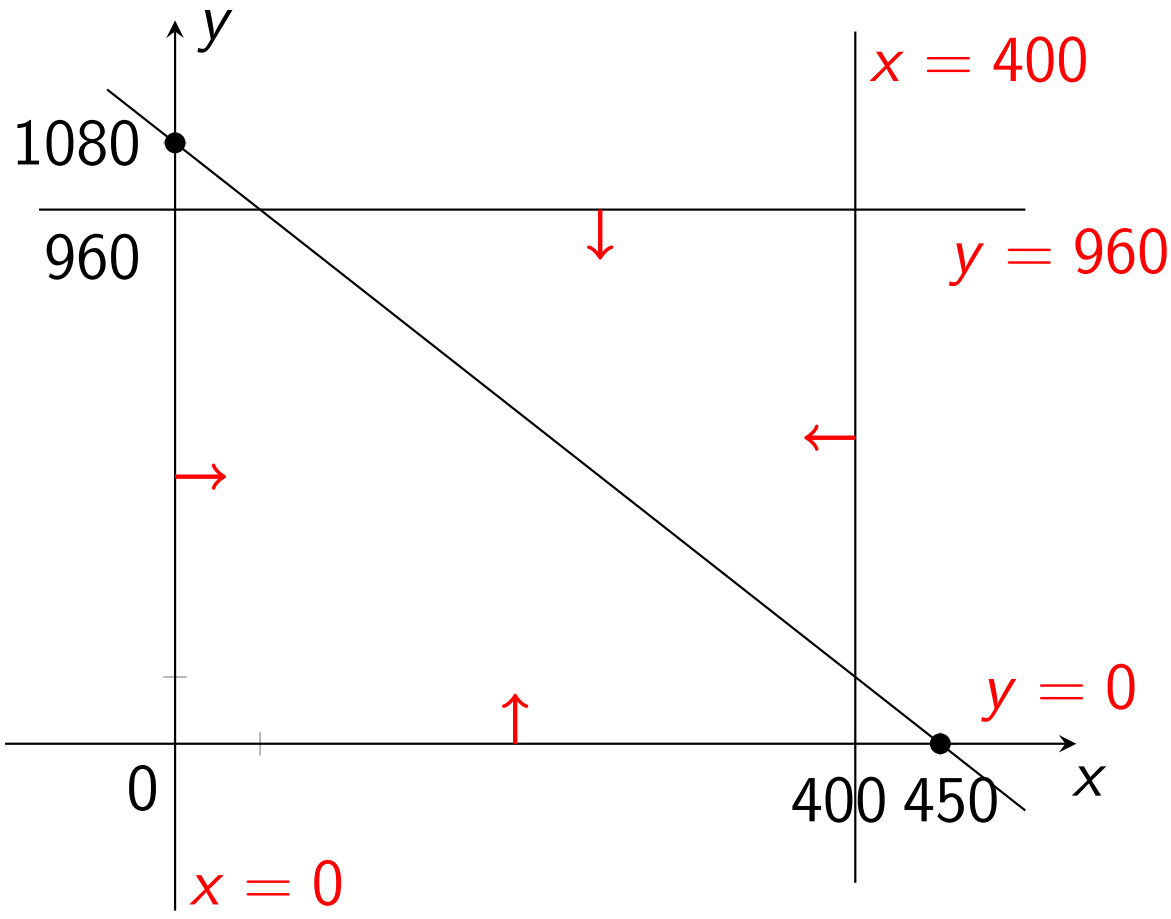

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$x = 0 \rightsquigarrow y = 1080$

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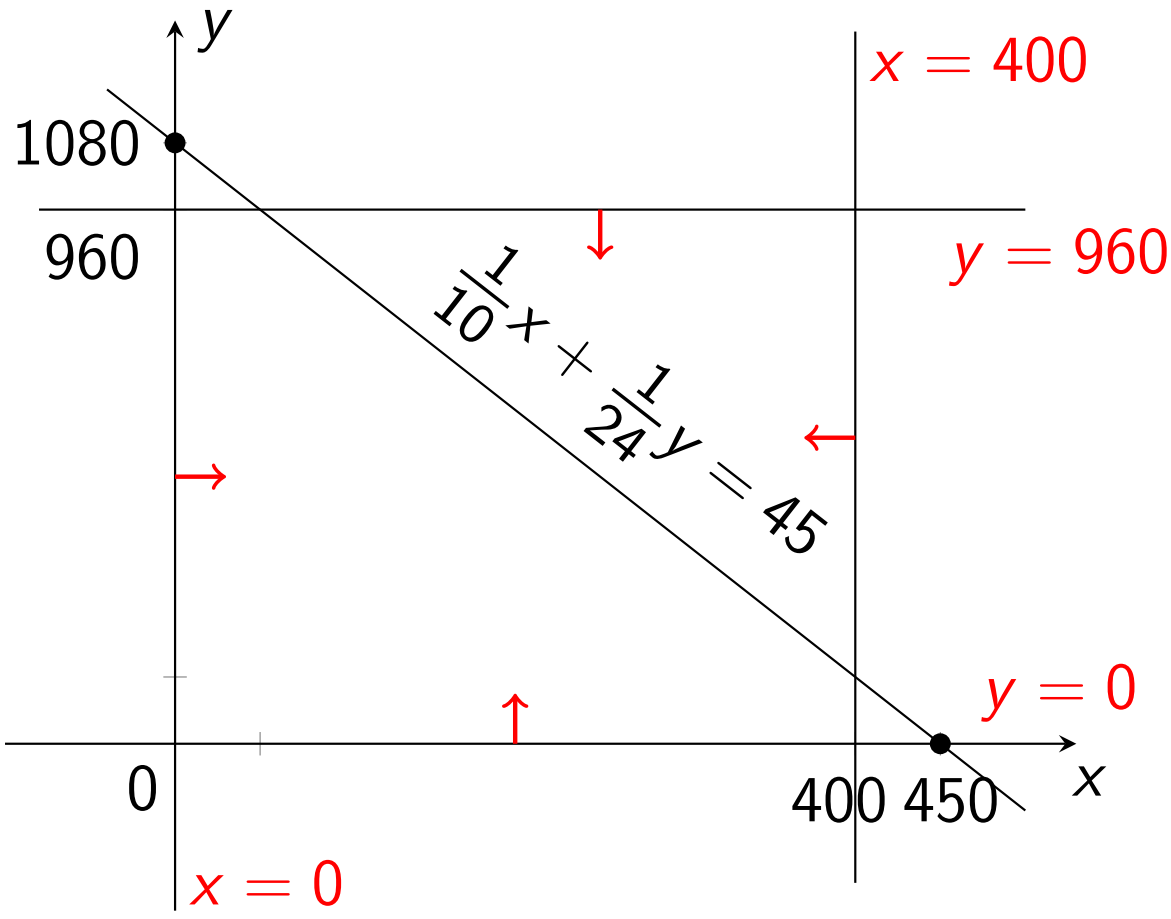

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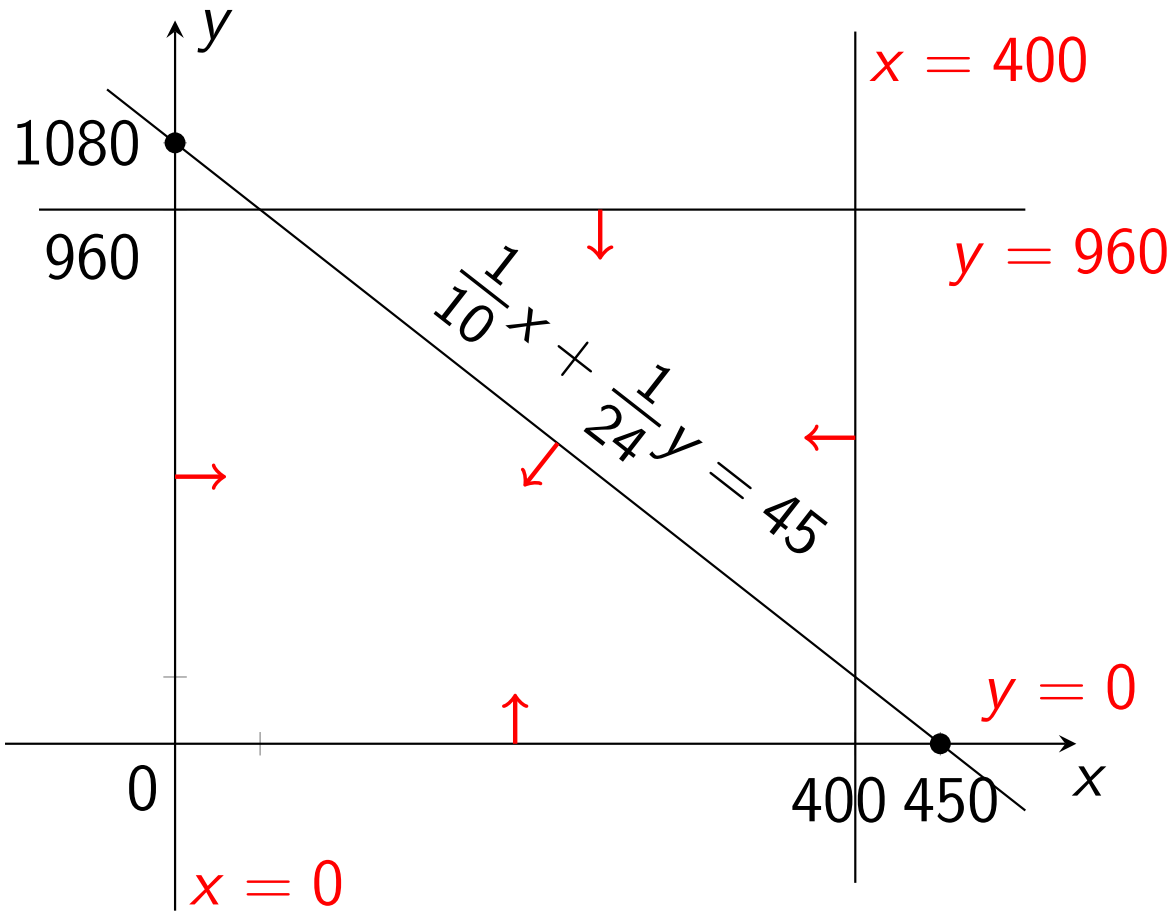

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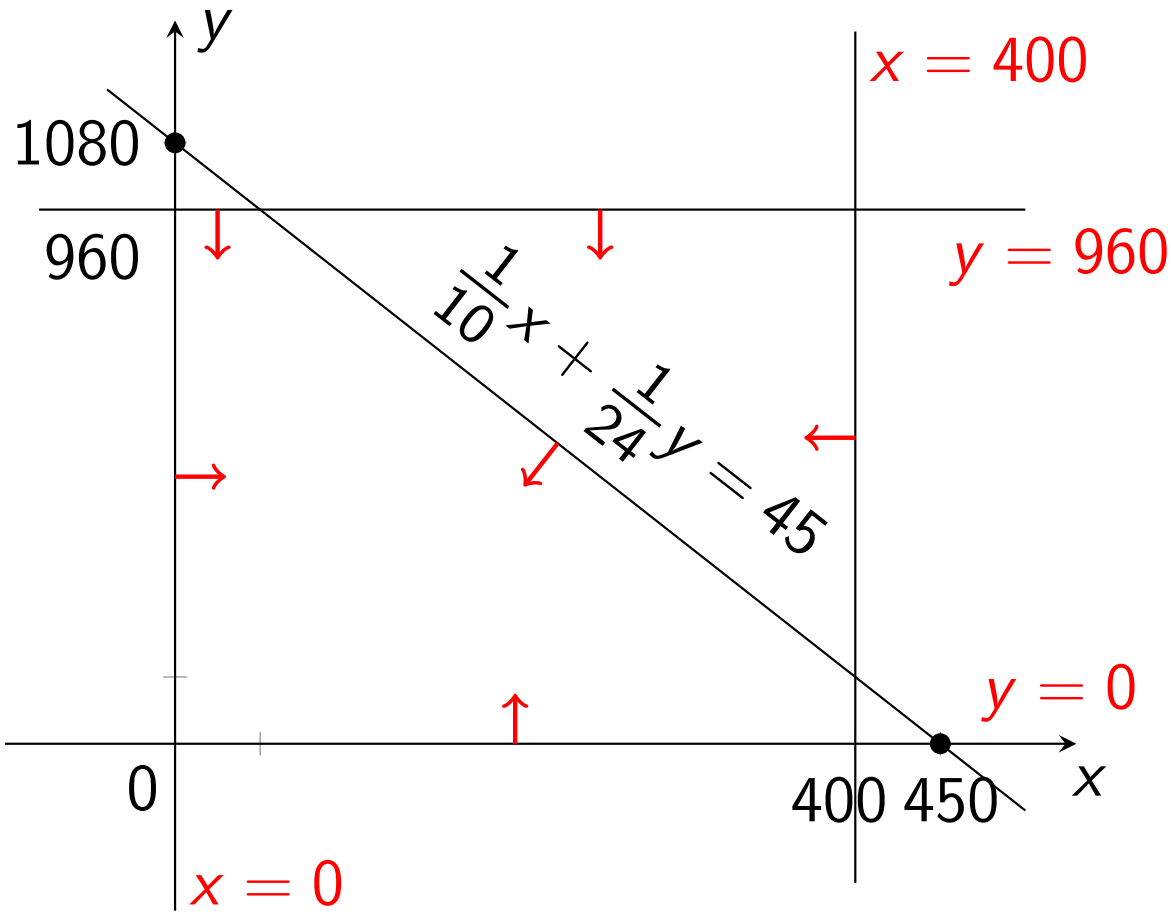

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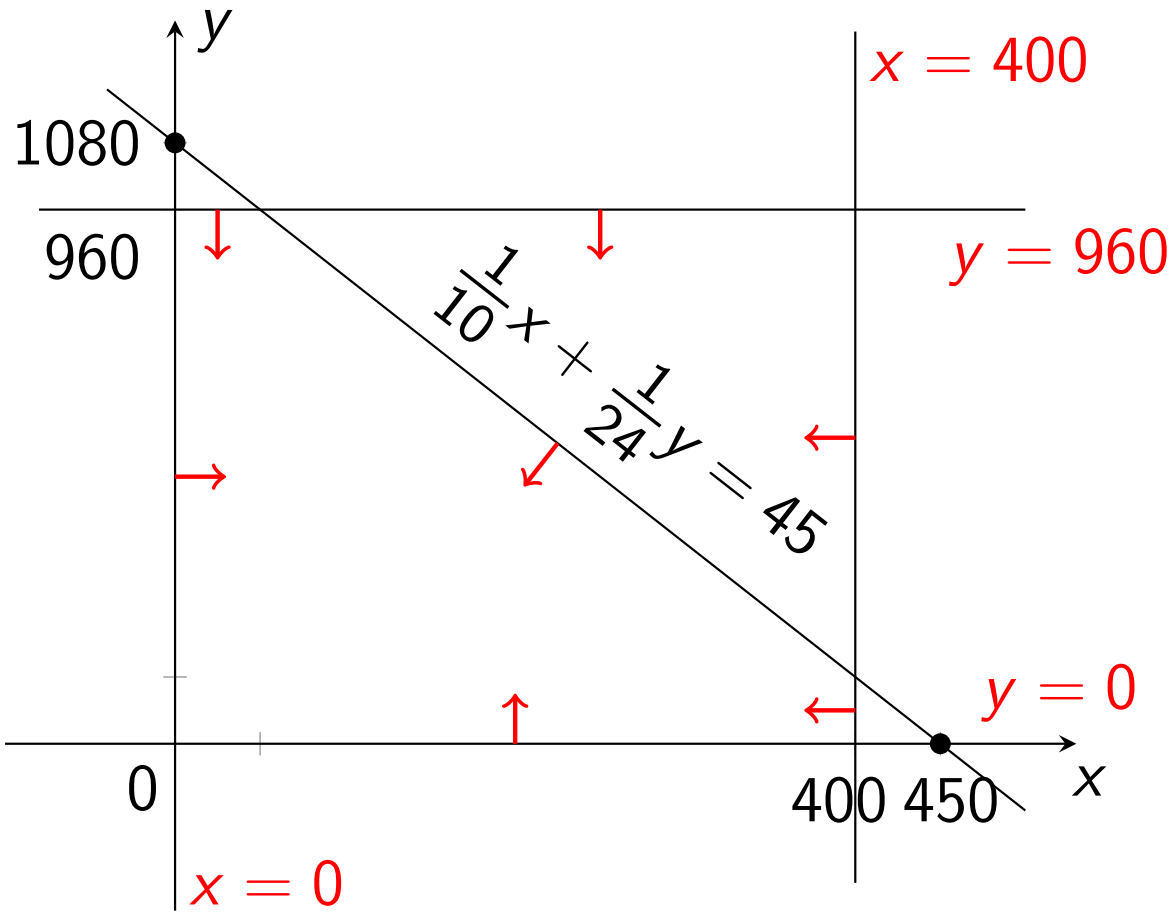

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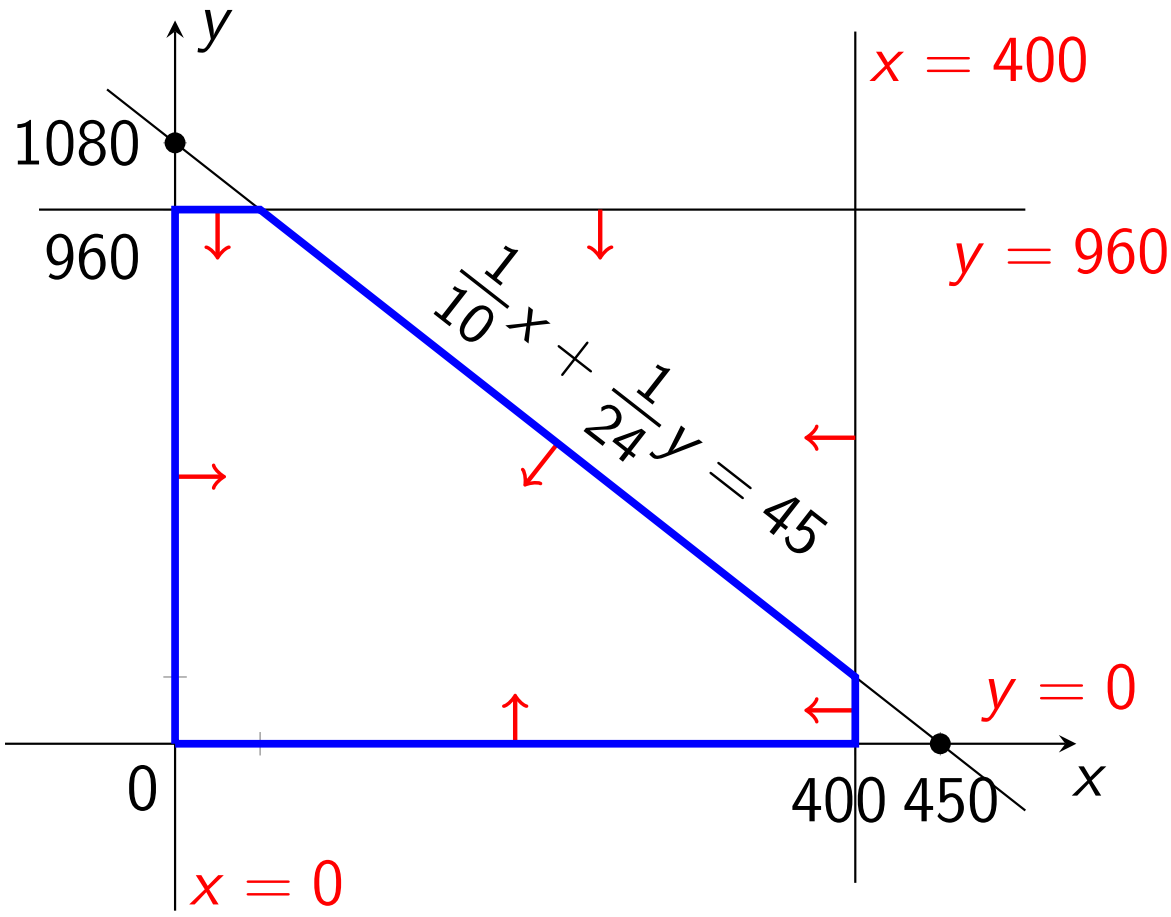

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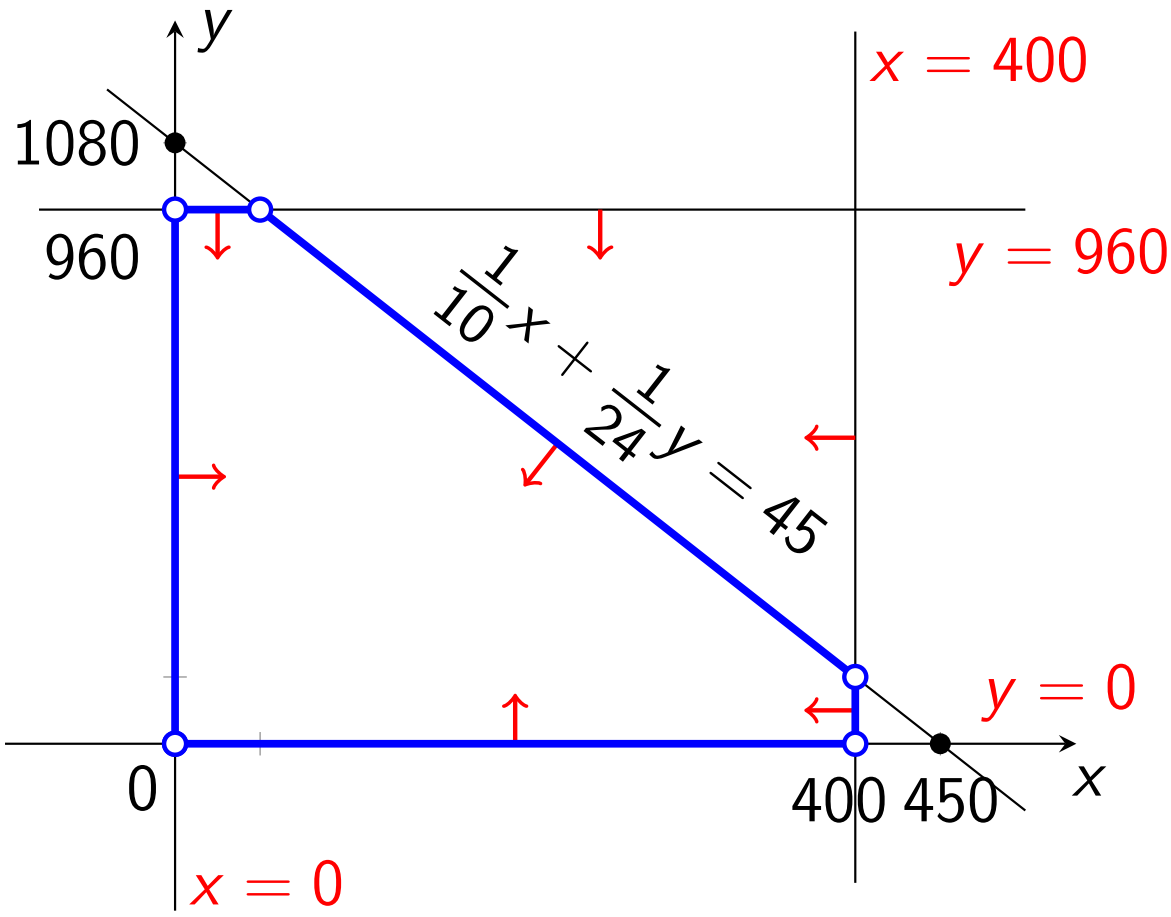

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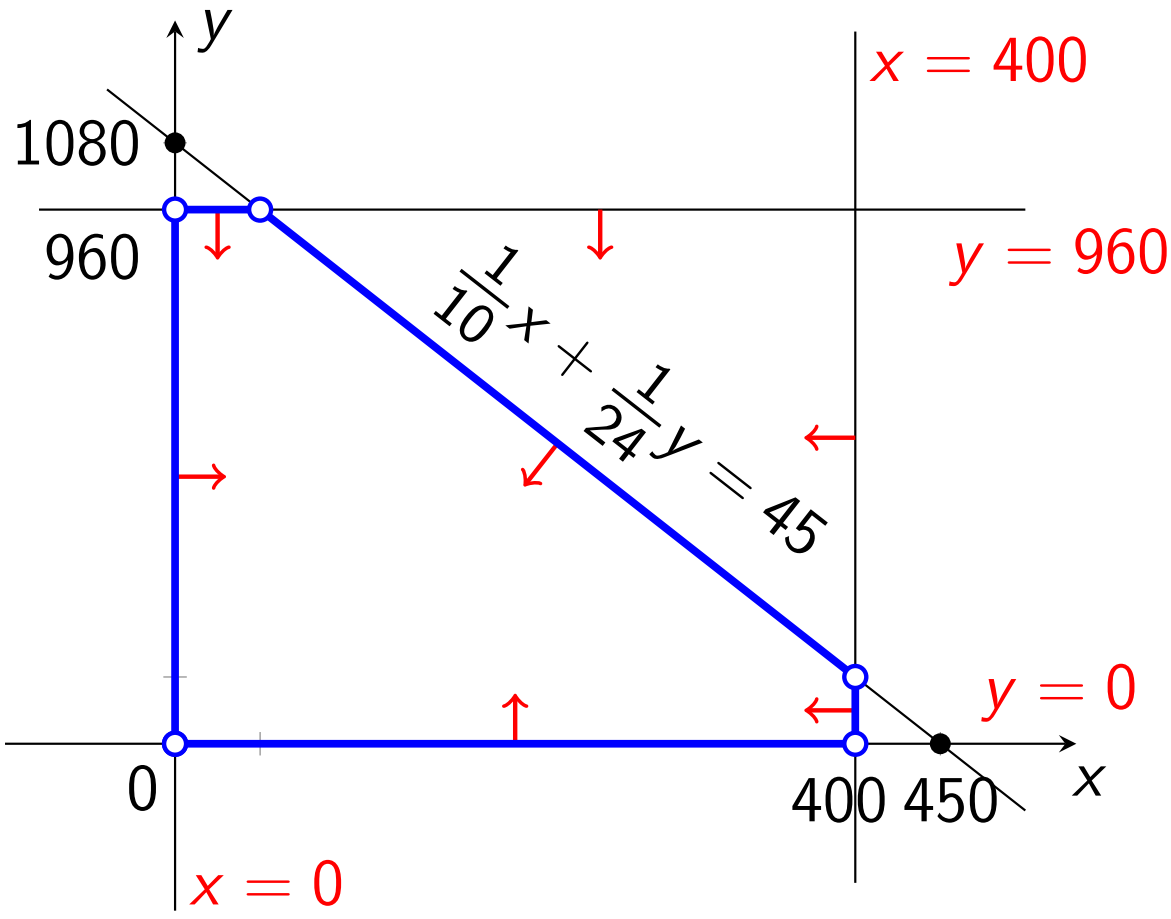

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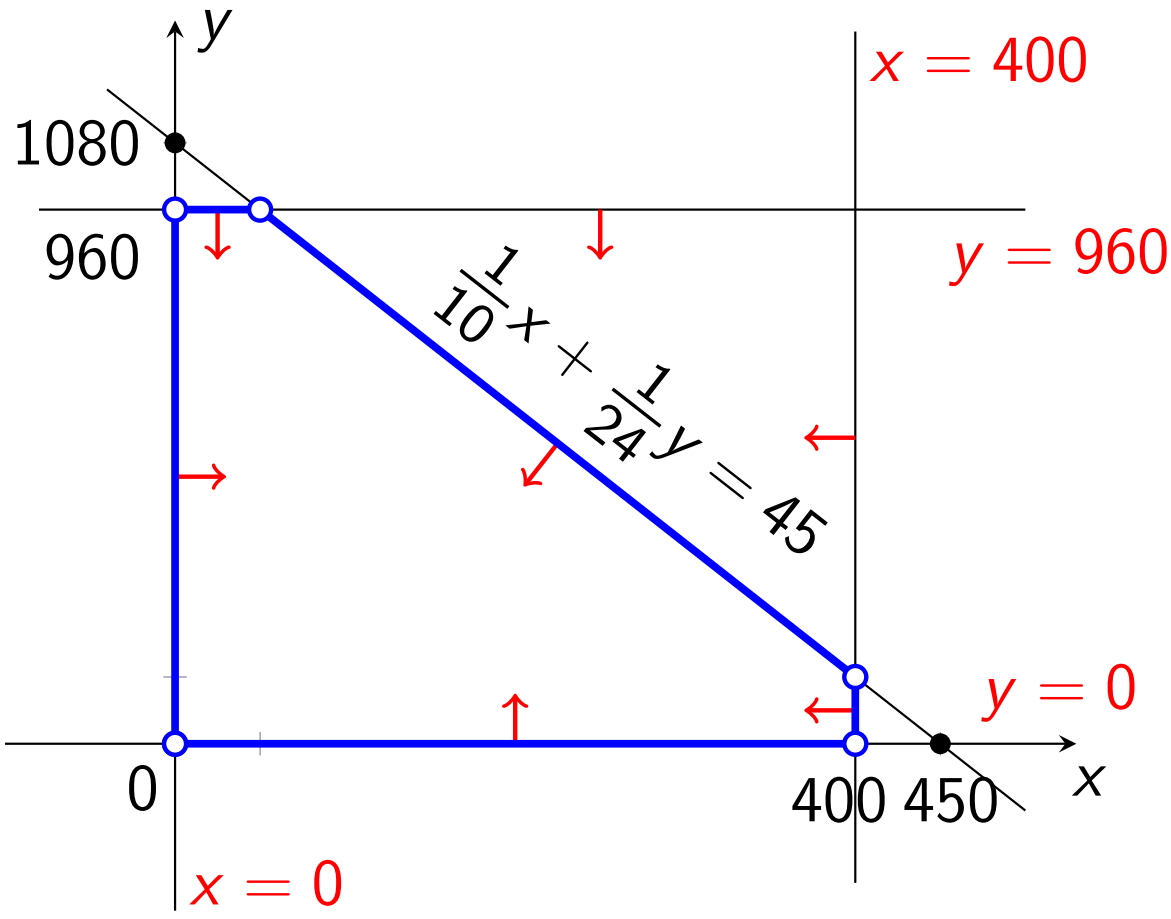
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$

$y = 0 \rightsquigarrow x = 450$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\}$$



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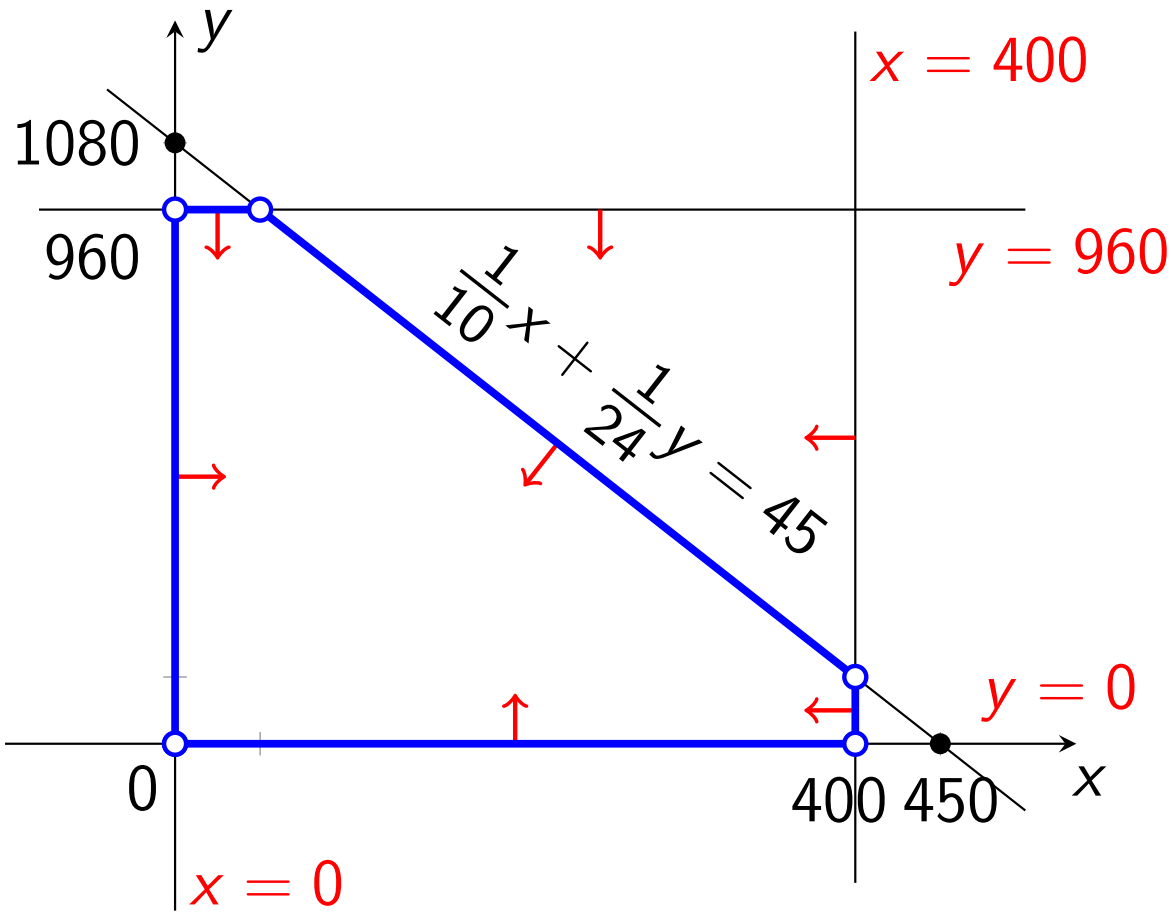
$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45$$



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$x = 0 \rightsquigarrow y = 1080$

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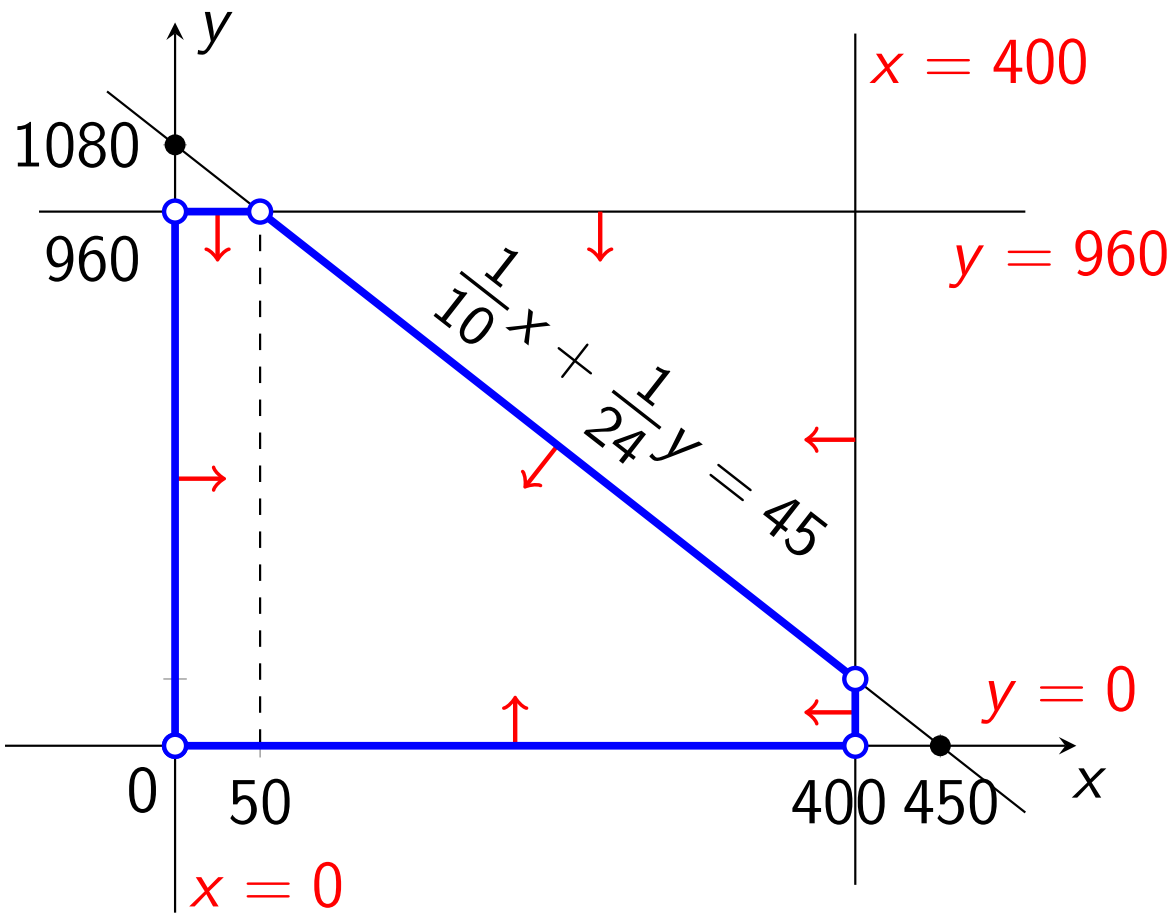
$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$



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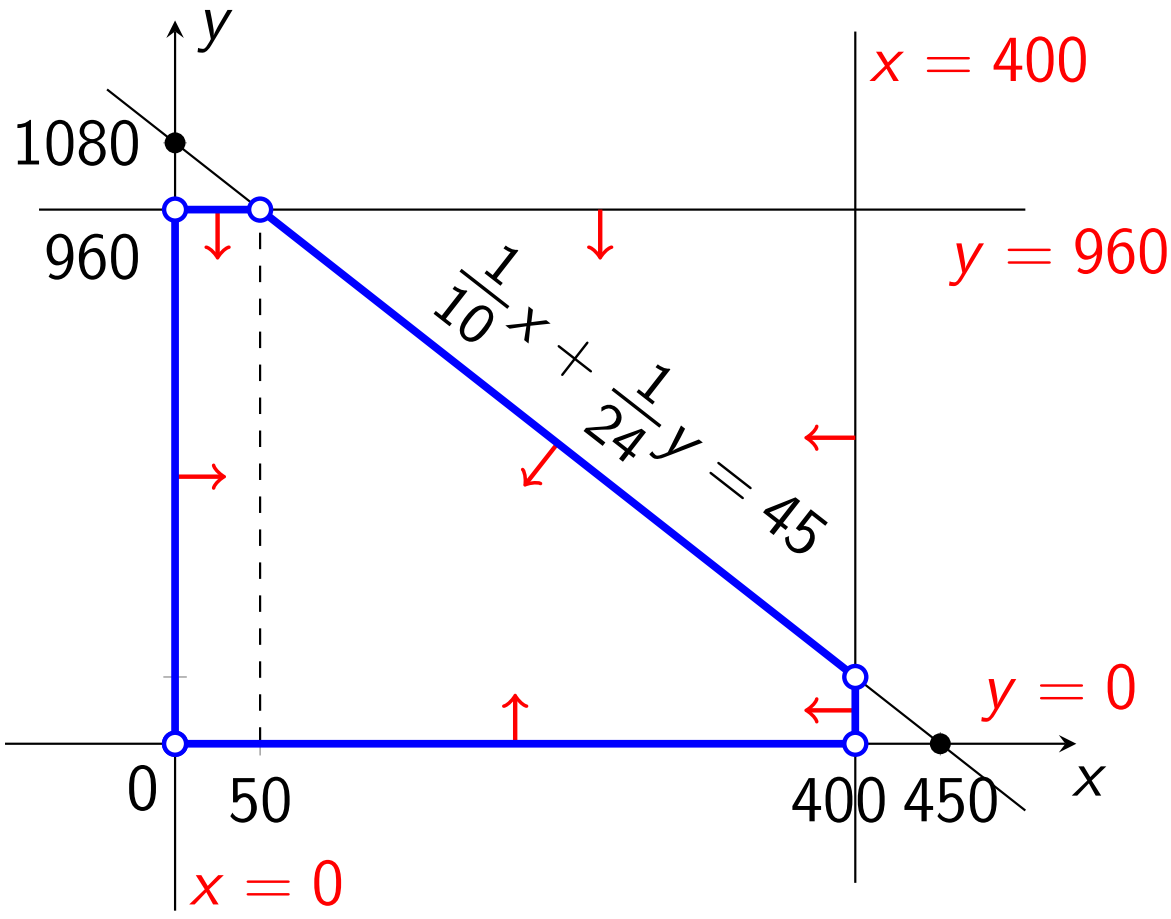
$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$



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$x = 0 \rightsquigarrow y = 1080$

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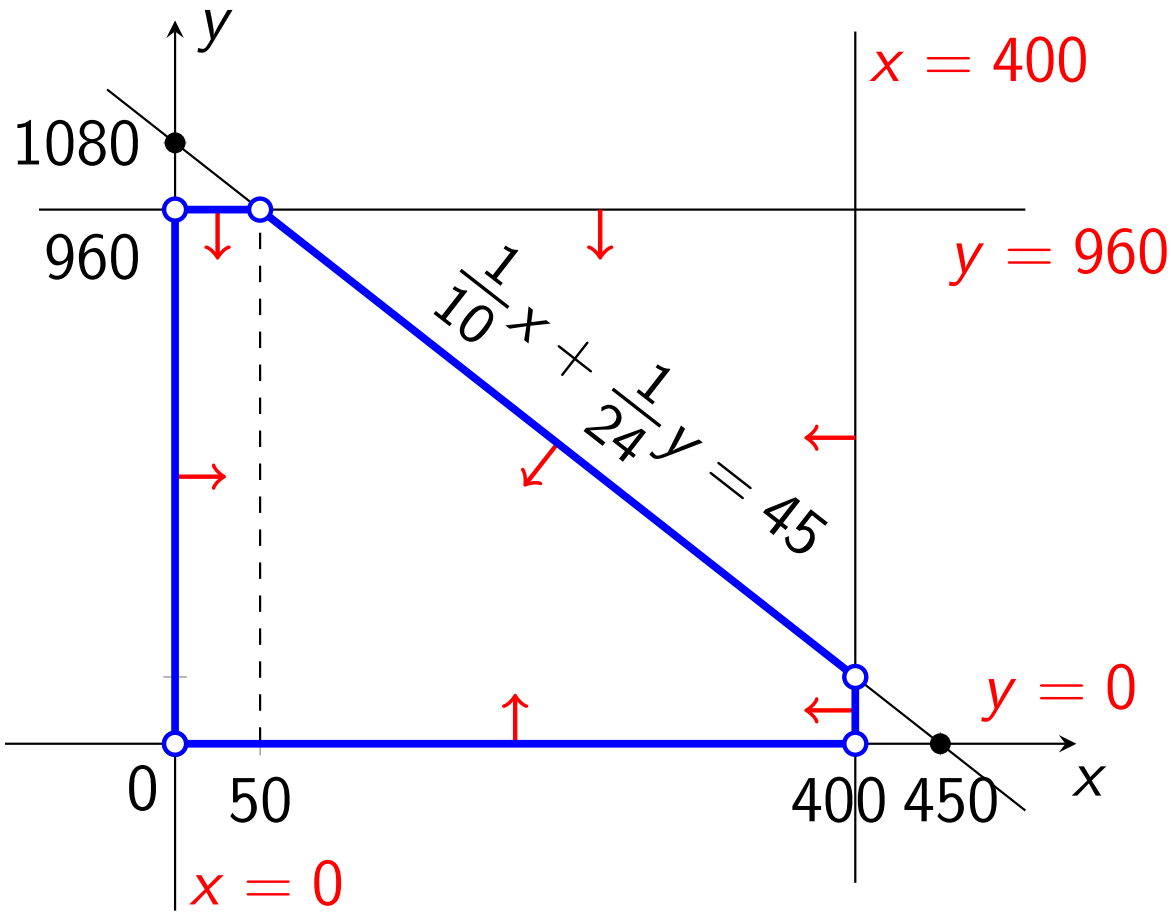
$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ x = 400 \end{array}\right\}$$



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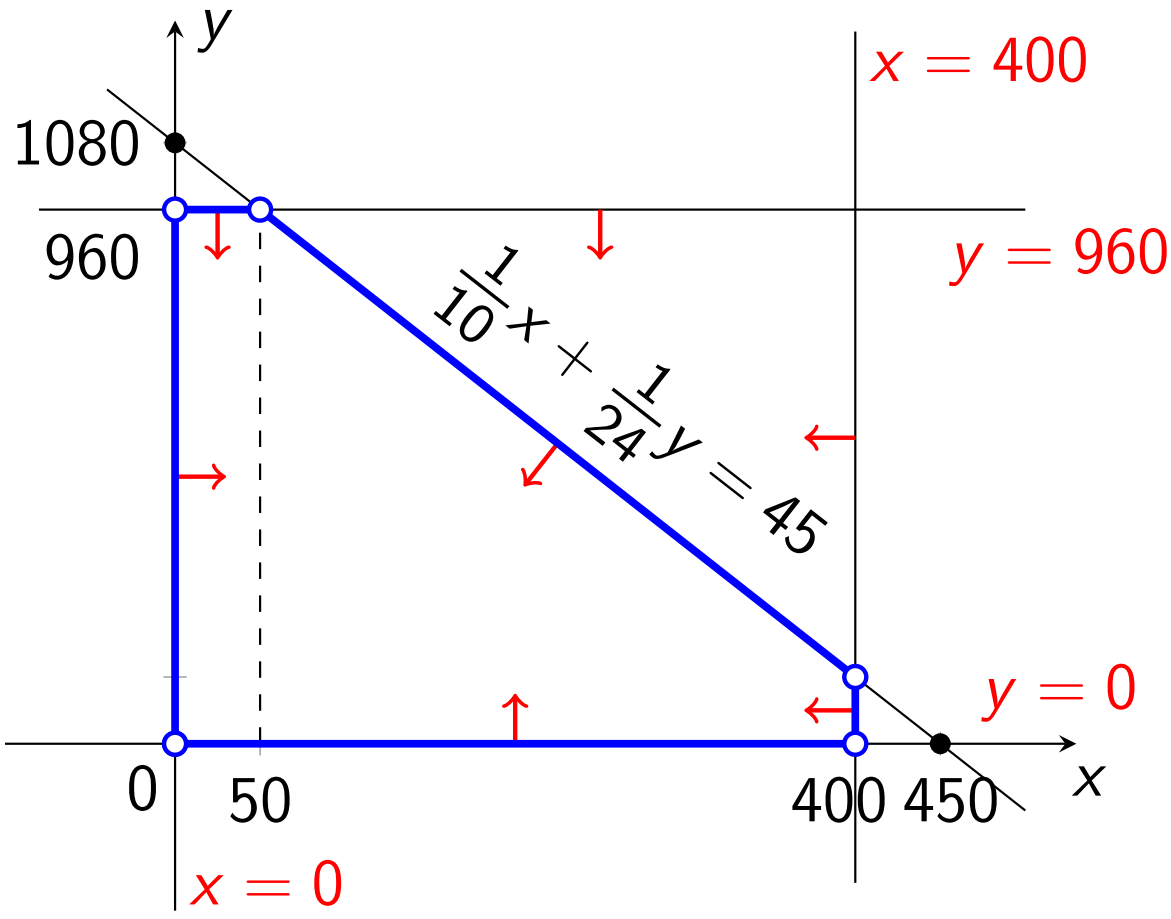
$x = 0 \rightsquigarrow y = 1080$

$y = 0 \rightsquigarrow x = 450$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ x = 400 \end{array}\right\} \rightsquigarrow \frac{1}{10} \cdot 400 + \frac{1}{24}y = 45$$



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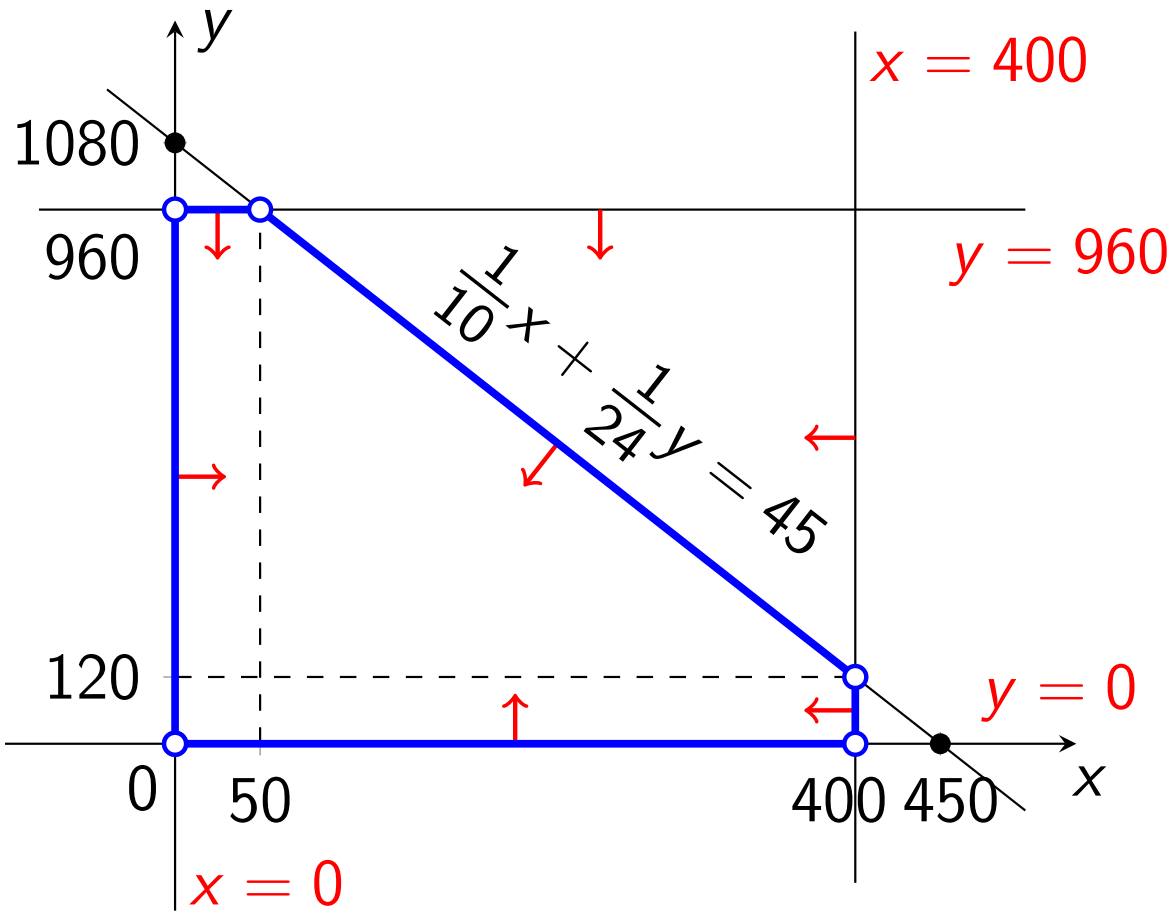
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$

$y = 0 \rightsquigarrow x = 450$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ y = 960 \end{array}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$

$$\left.\begin{array}{r} \frac{1}{10}x + \frac{1}{24}y = 45 \\ x = 400 \end{array}\right\} \rightsquigarrow \frac{1}{10} \cdot 400 + \frac{1}{24}y = 45 \rightsquigarrow y = 120$$



$$x \geqslant 0$$
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$$x \leqslant 400$$
$$y \leqslant 960$$
$$\frac{1}{10}x + \frac{1}{24}y \leqslant 45$$

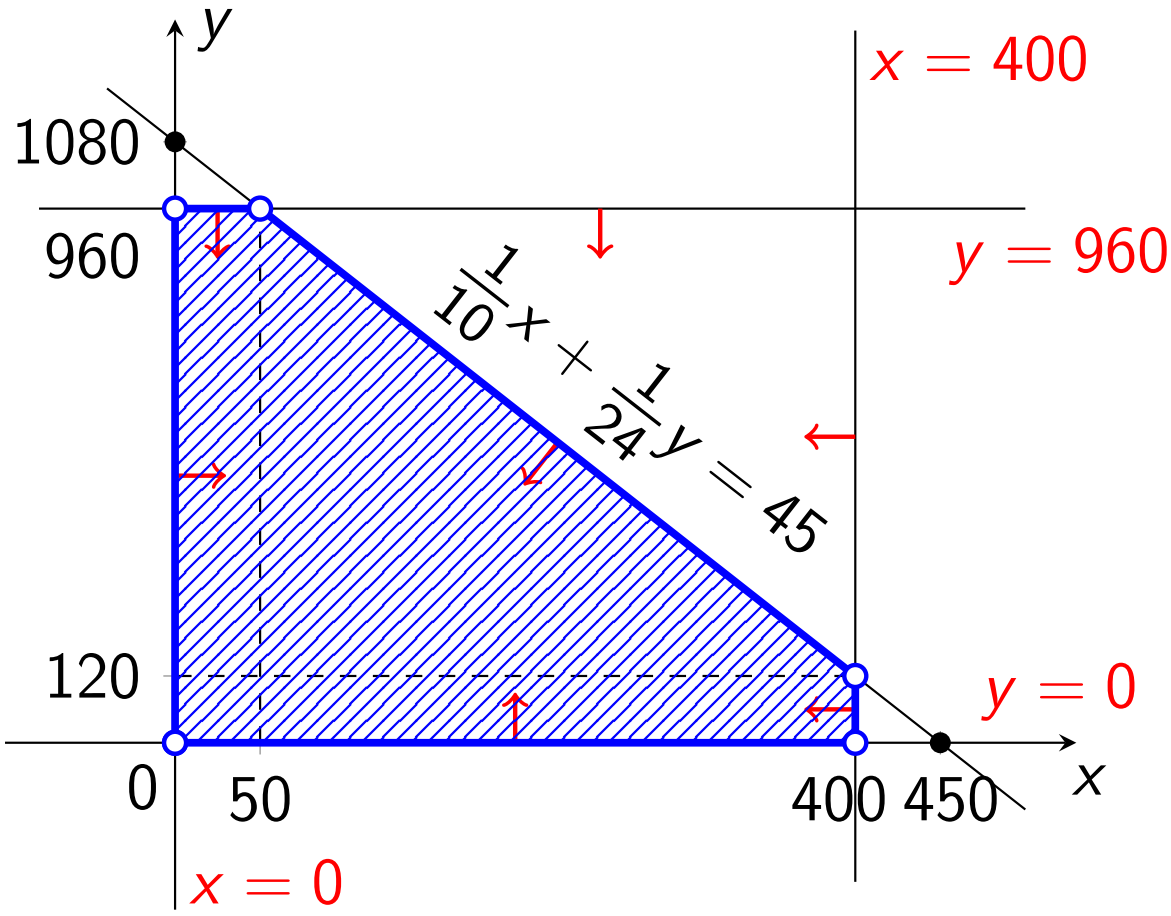
$$\frac{1}{10}x + \frac{1}{24}y = 45$$

$x = 0 \rightsquigarrow y = 1080$

$y = 0 \rightsquigarrow x = 450$

$$\left.\begin{aligned} \frac{1}{10}x + \frac{1}{24}y &= 45 \\ y &= 960 \end{aligned}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$

$$\left.\begin{aligned} \frac{1}{10}x + \frac{1}{24}y &= 45 \\ x &= 400 \end{aligned}\right\} \rightsquigarrow \frac{1}{10} \cdot 400 + \frac{1}{24}y = 45 \rightsquigarrow y = 120$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x \leqslant 400$$
$$y \leqslant 960$$
$$\frac{1}{10}x + \frac{1}{24}y \leqslant 45$$

$$\frac{1}{10}x + \frac{1}{24}y = 45$$

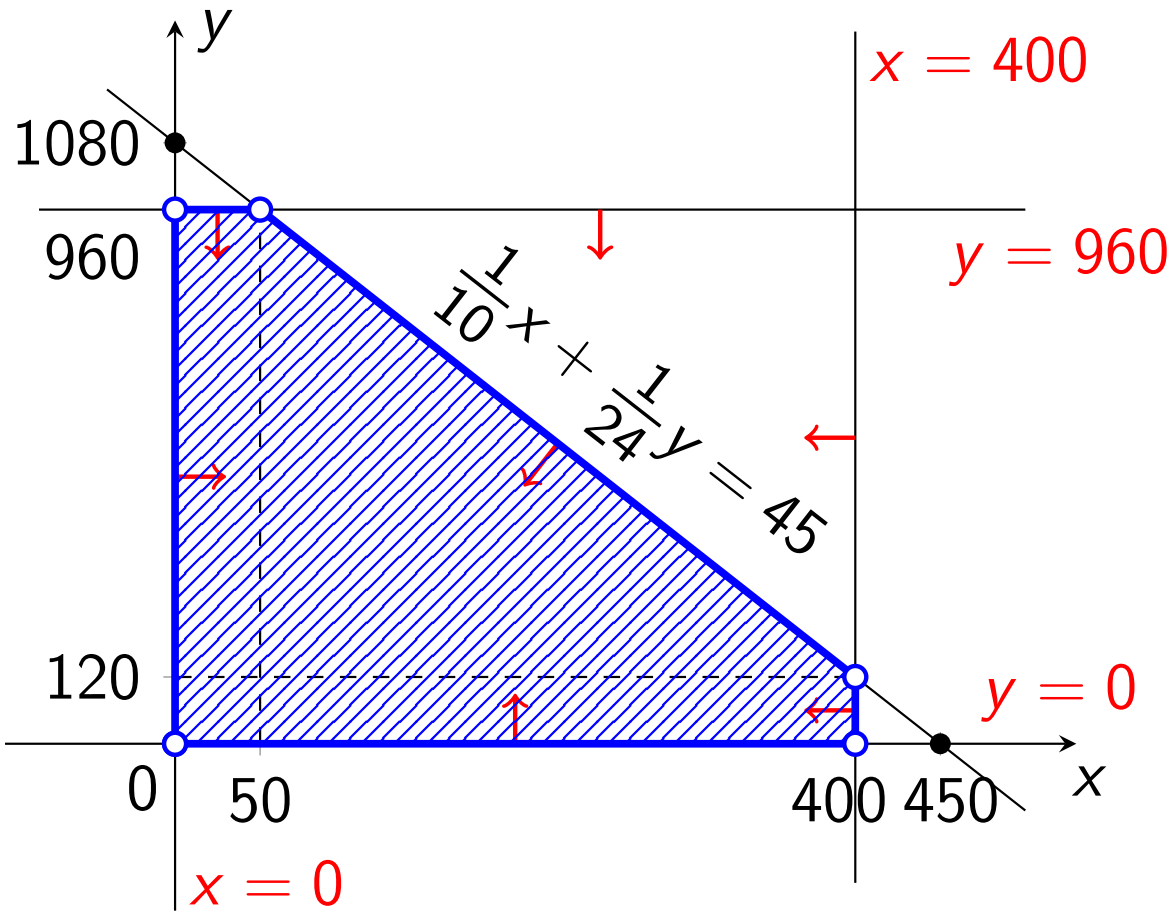
$x = 0 \rightsquigarrow y = 1080$

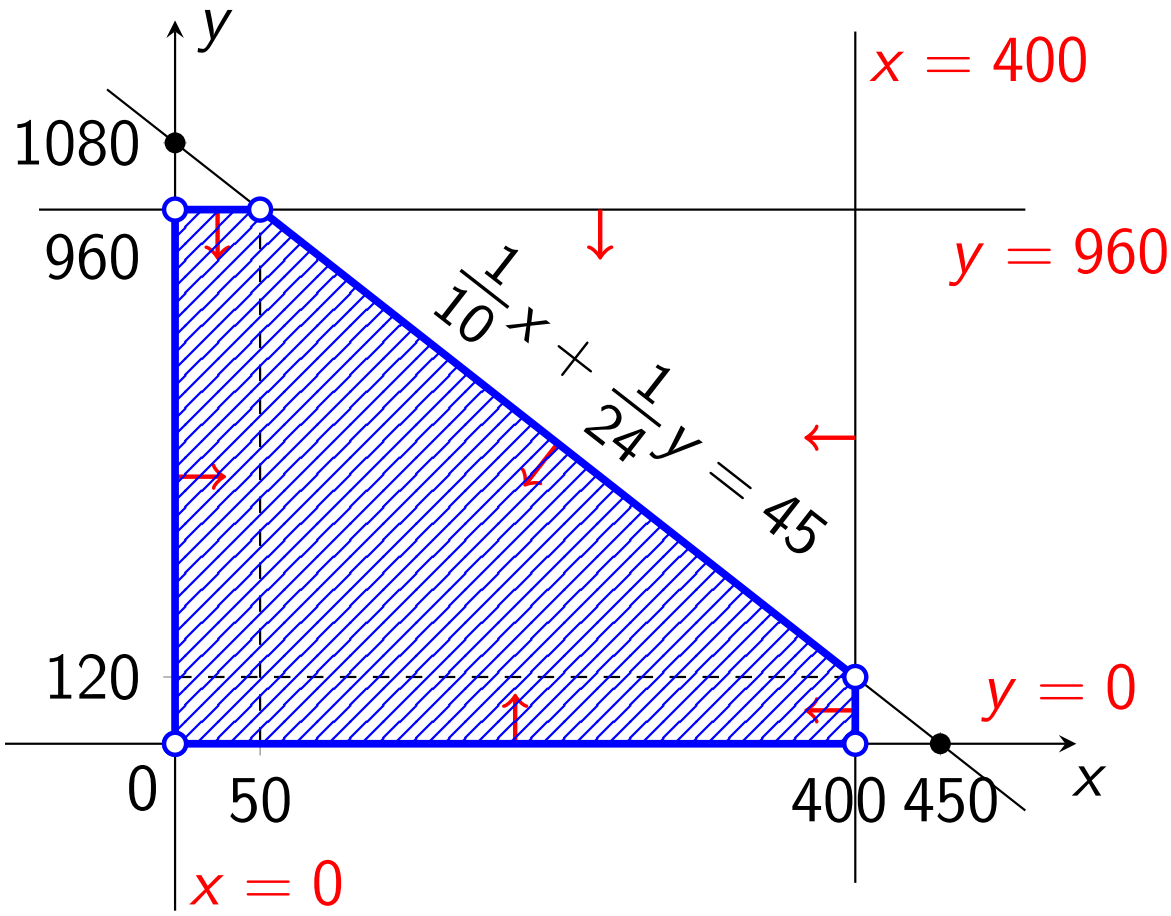
$y = 0 \rightsquigarrow x = 450$

$$\left.\begin{aligned} \frac{1}{10}x + \frac{1}{24}y &= 45 \\ y &= 960 \end{aligned}\right\} \rightsquigarrow \frac{1}{10}x + \frac{1}{24} \cdot 960 = 45 \rightsquigarrow x = 50$$

$$\left.\begin{aligned} \frac{1}{10}x + \frac{1}{24}y &= 45 \\ x &= 400 \end{aligned}\right\} \rightsquigarrow \frac{1}{10} \cdot 400 + \frac{1}{24}y = 45 \rightsquigarrow y = 120$$

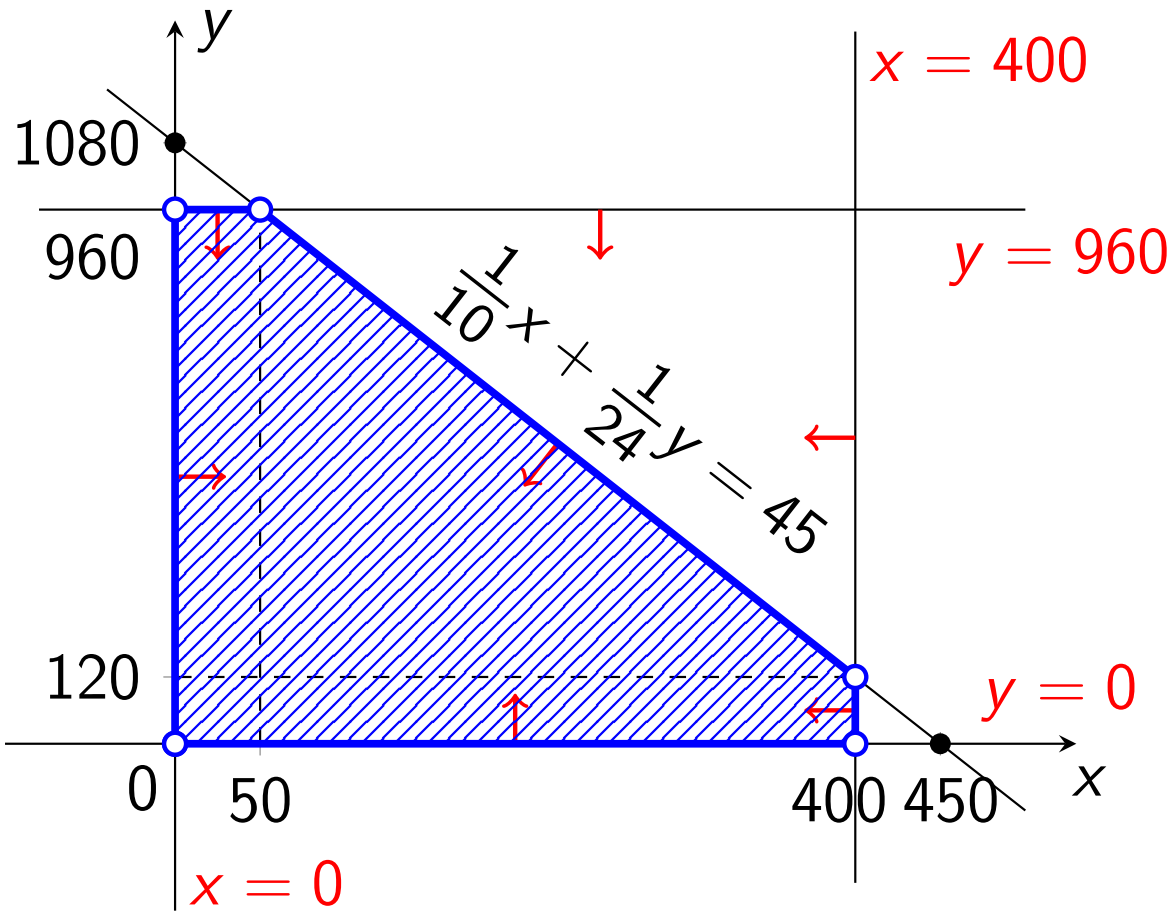
$P = 20x + 18y$





$P = 20x + 18y$

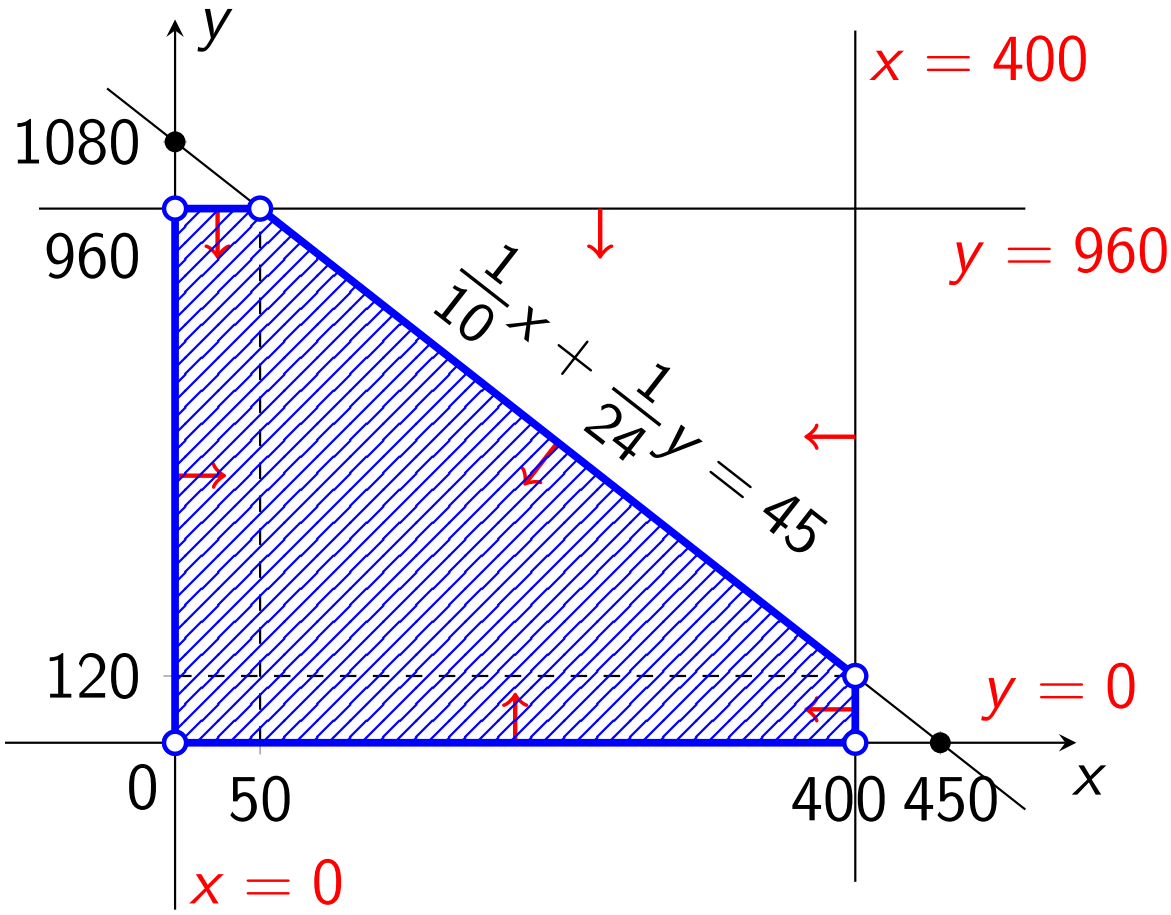
Vršna rješenja



$P = 20x + 18y$

Vršna rješenja

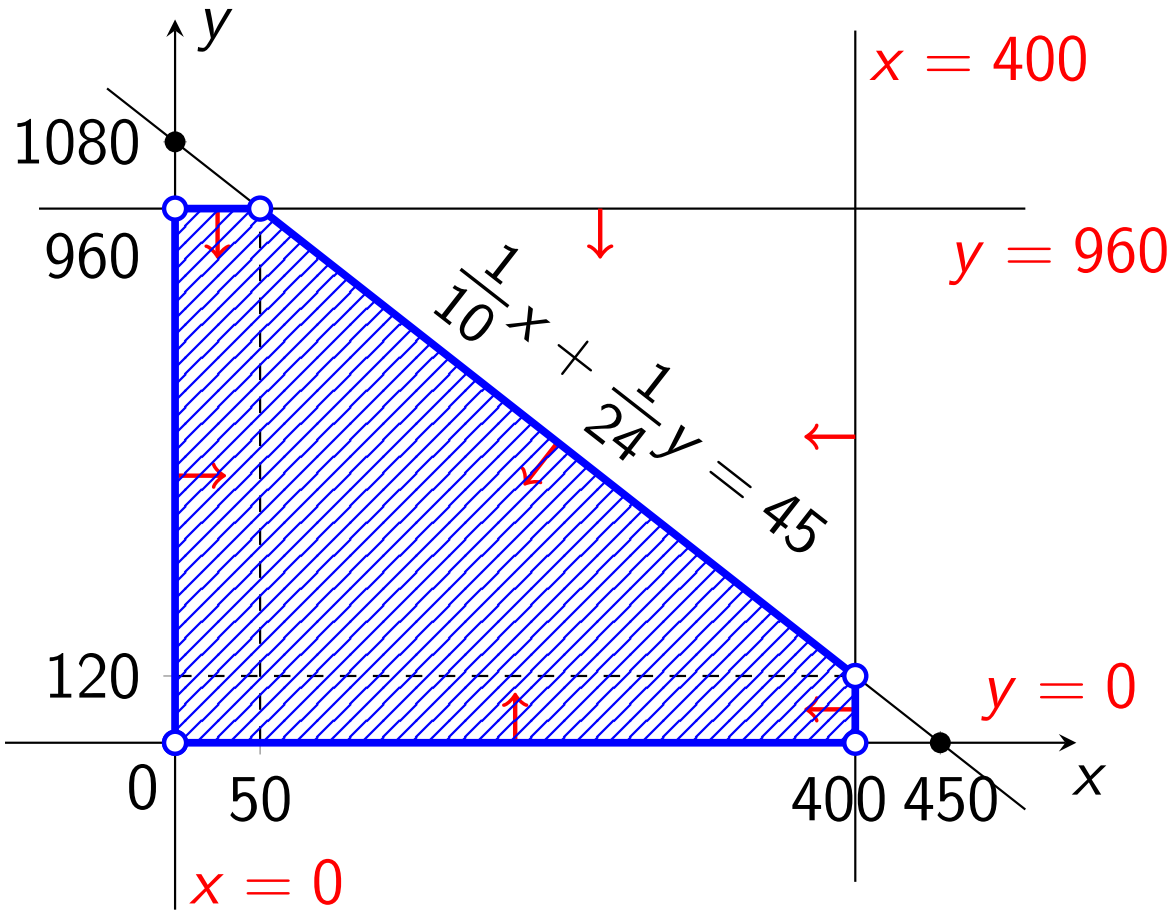
$(0, 0)$



$P = 20x + 18y$

Vršna rješenja

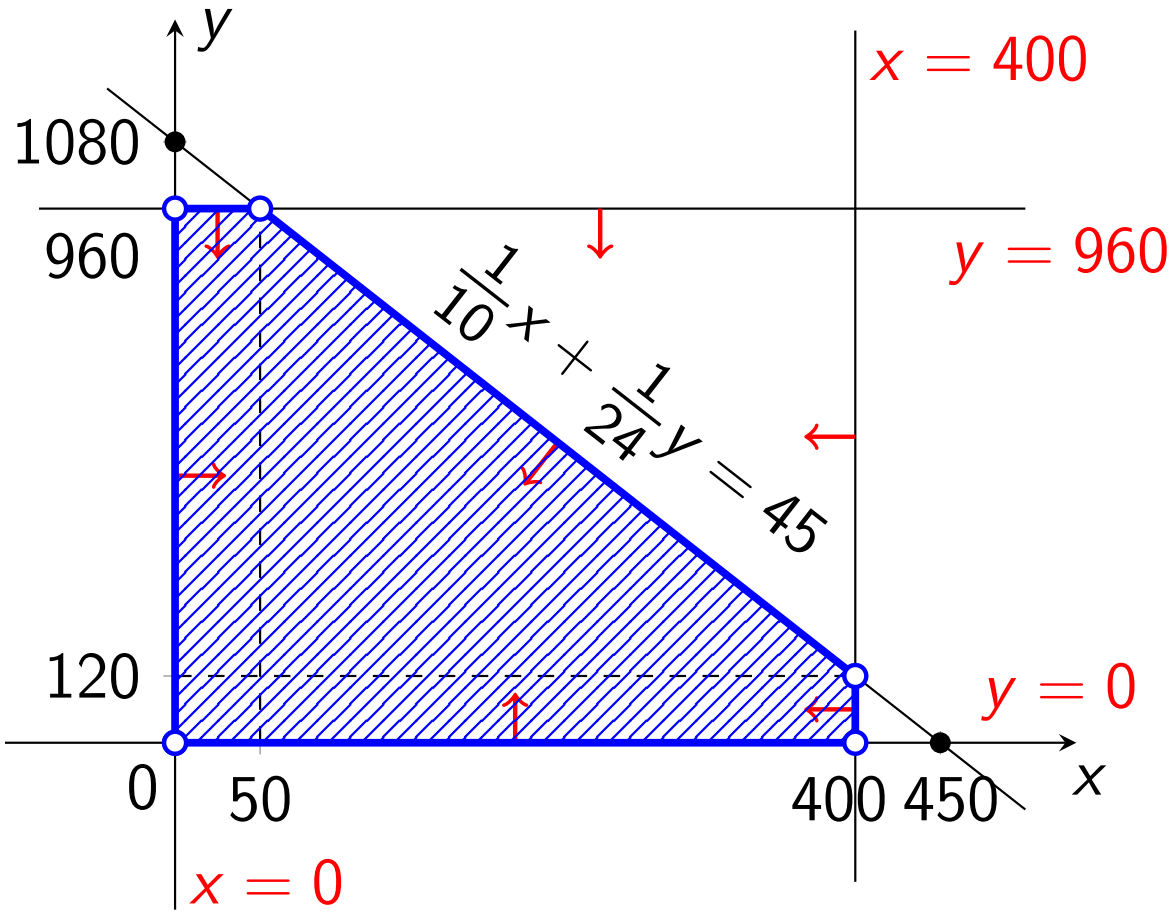
$(0, 0),\ (400, 0)$



$P = 20x + 18y$

Vršna rješenja

$(0, 0),\ (400, 0),\ (0, 960)$

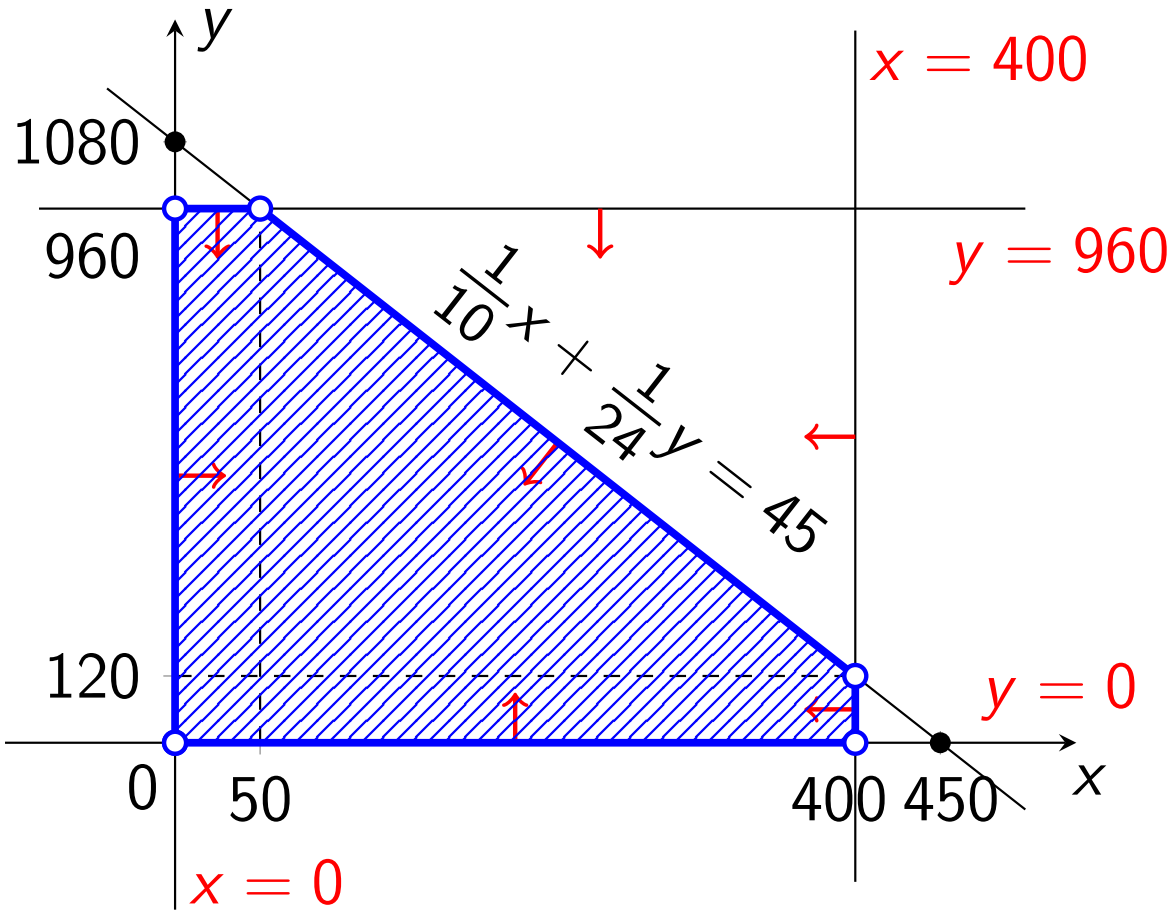


$P = 20x + 18y$

Vršna rješenja

$(0, 0),\ (400, 0),\ (0, 960),$

$(400, 120)$

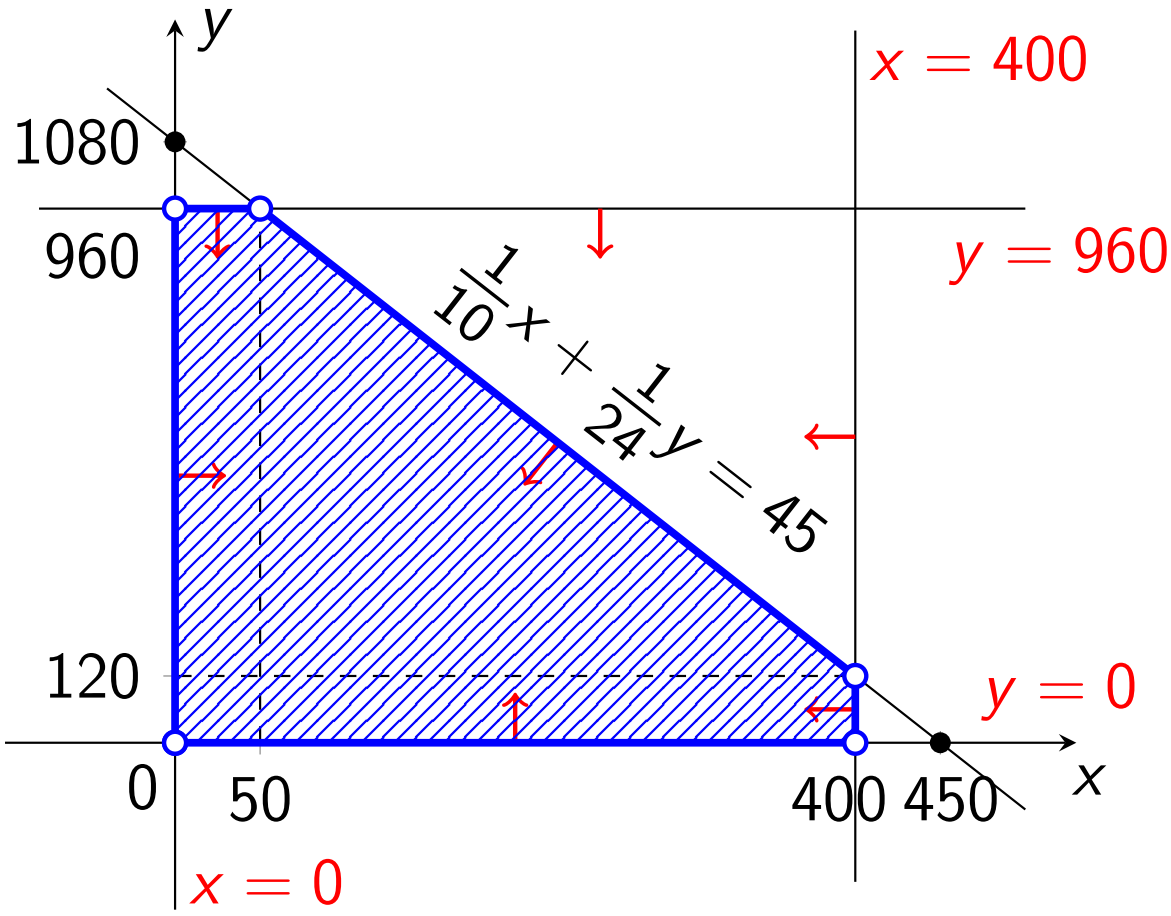


$P = 20x + 18y$

Vršna rješenja

$(0, 0),\ (400, 0),\ (0, 960),$

$(400, 120),\ (50, 960)$



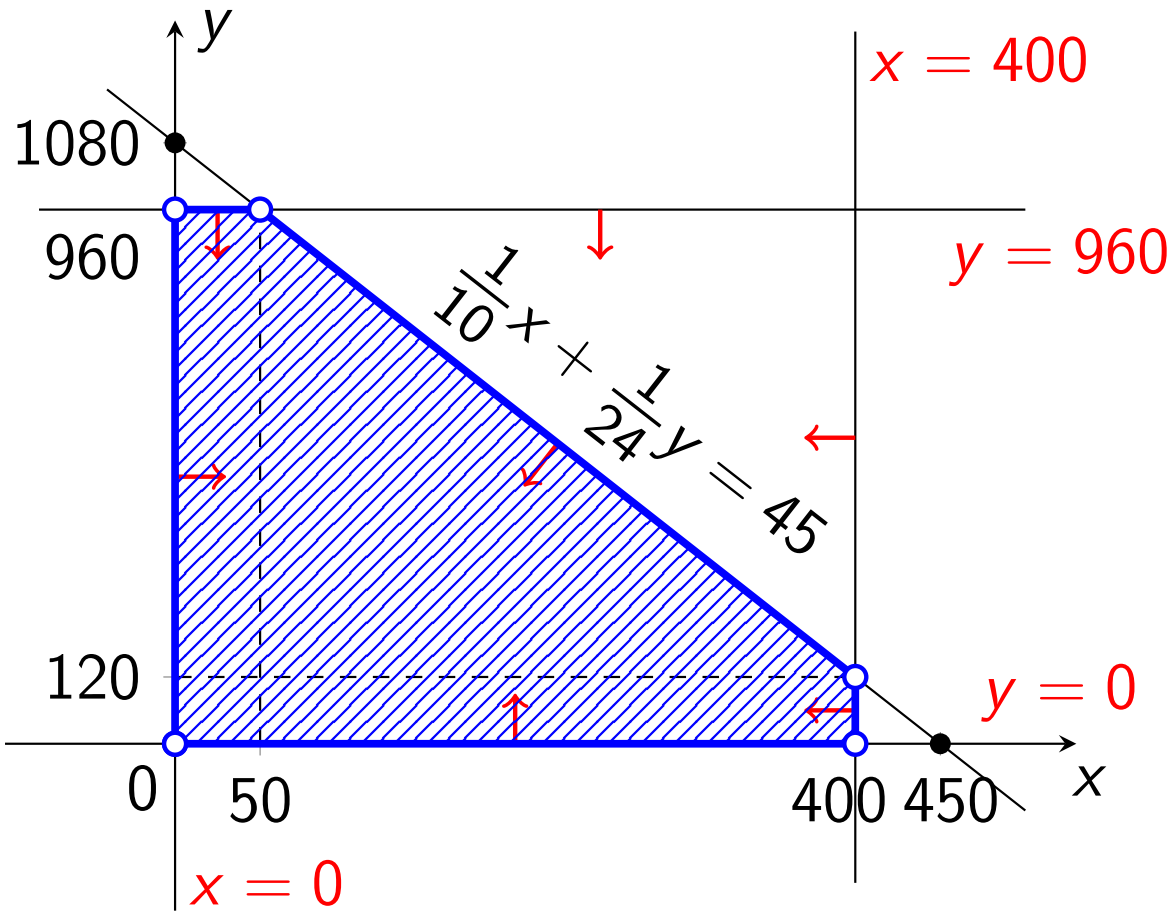
$P = 20x + 18y$

Vršna rješenja

$(0, 0),\ (400, 0),\ (0, 960),$

$(400, 120),\ (50, 960)$

$P(x, y) = 20x + 18y$



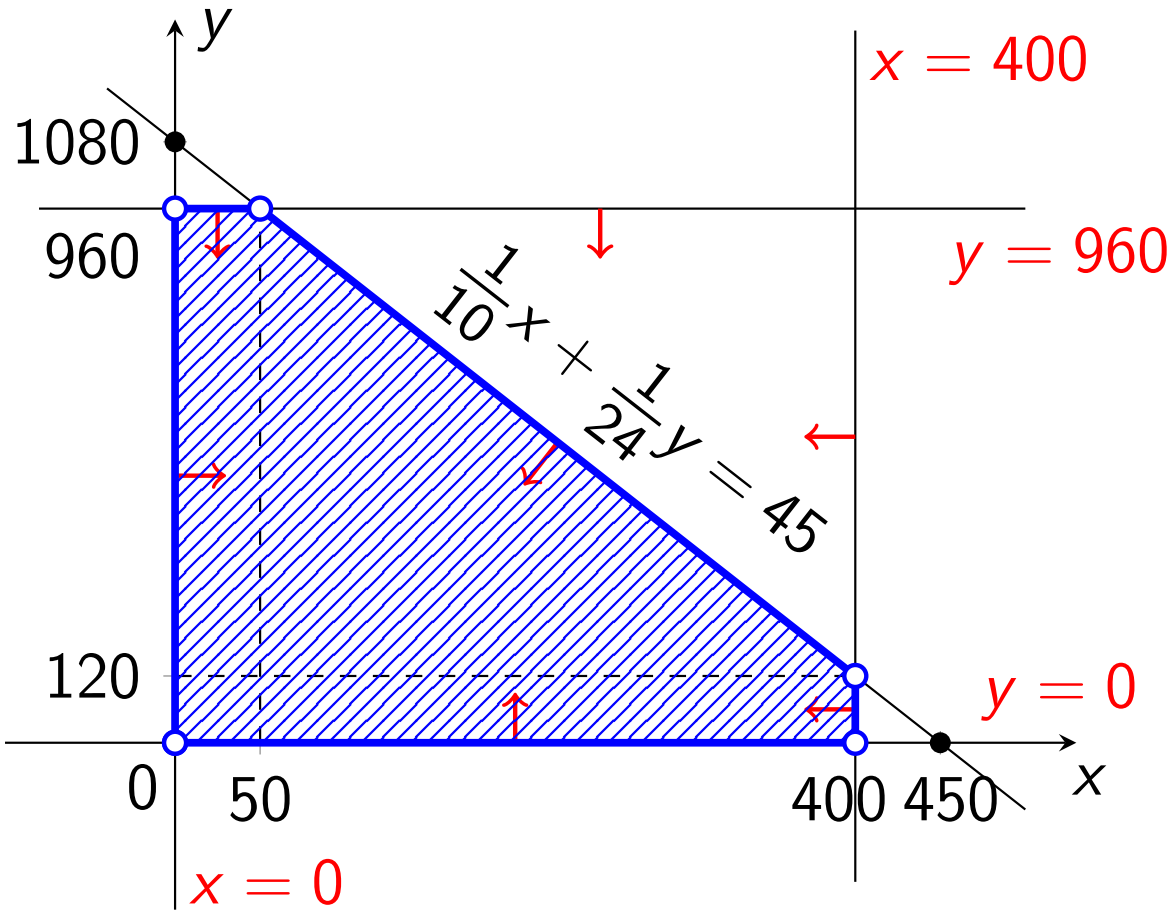
$$P = 20x + 18y$$

Vršna rješenja

$(0, 0),\ (400, 0),\ (0, 960),$

$(400, 120),\ (50, 960)$

$$P(x, y) = 20x + 18y$$



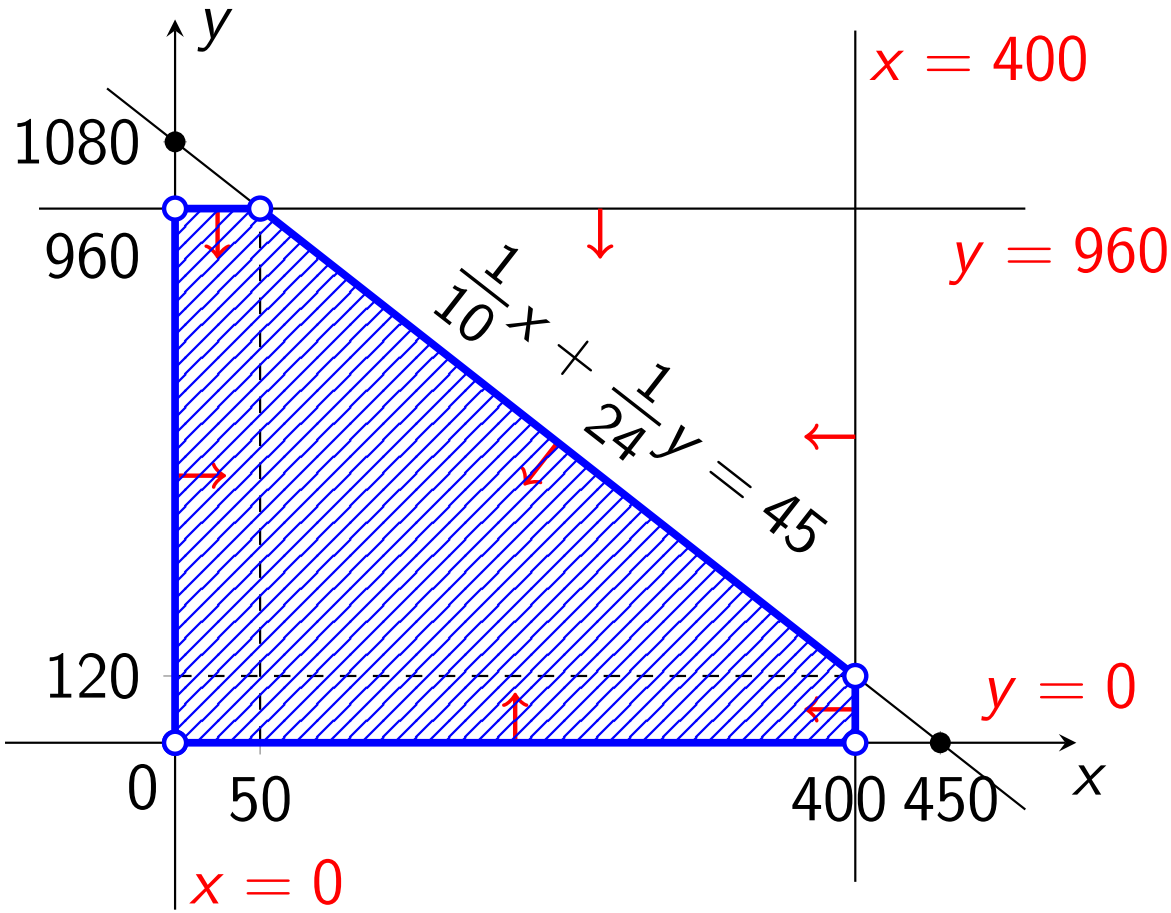
$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

$$P(x, y) = 20x + 18y$$



$P = 20x + 18y$

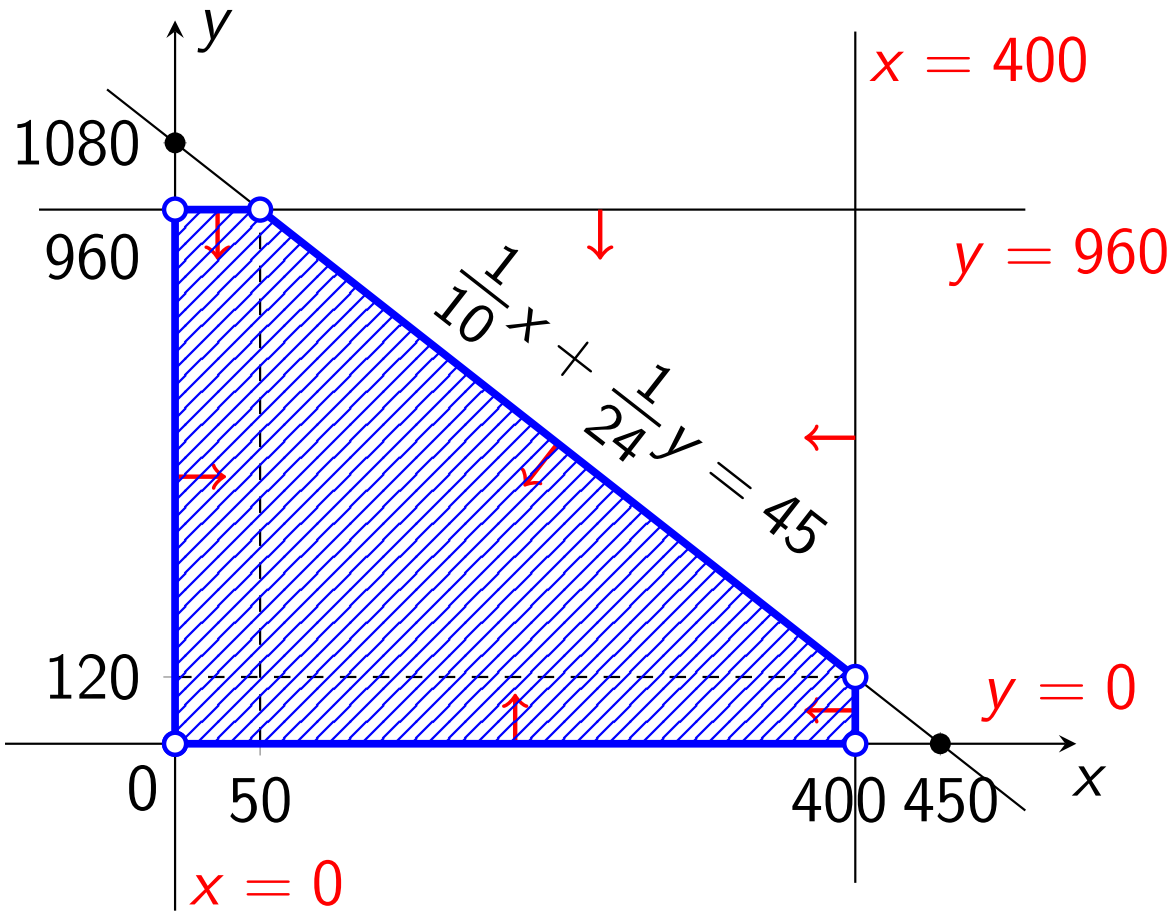
Vršna rješenja

$(0, 0)$, $(400, 0)$, $(0, 960)$,

$(400, 120)$, $(50, 960)$

$P(x, y) = 20x + 18y$

$P(0, 0) =$



$P = 20x + 18y$

Vršna rješenja

$\begin{matrix} x & y \end{matrix}$ $\begin{matrix} x & y \end{matrix}$ $\begin{matrix} x & y \end{matrix}$

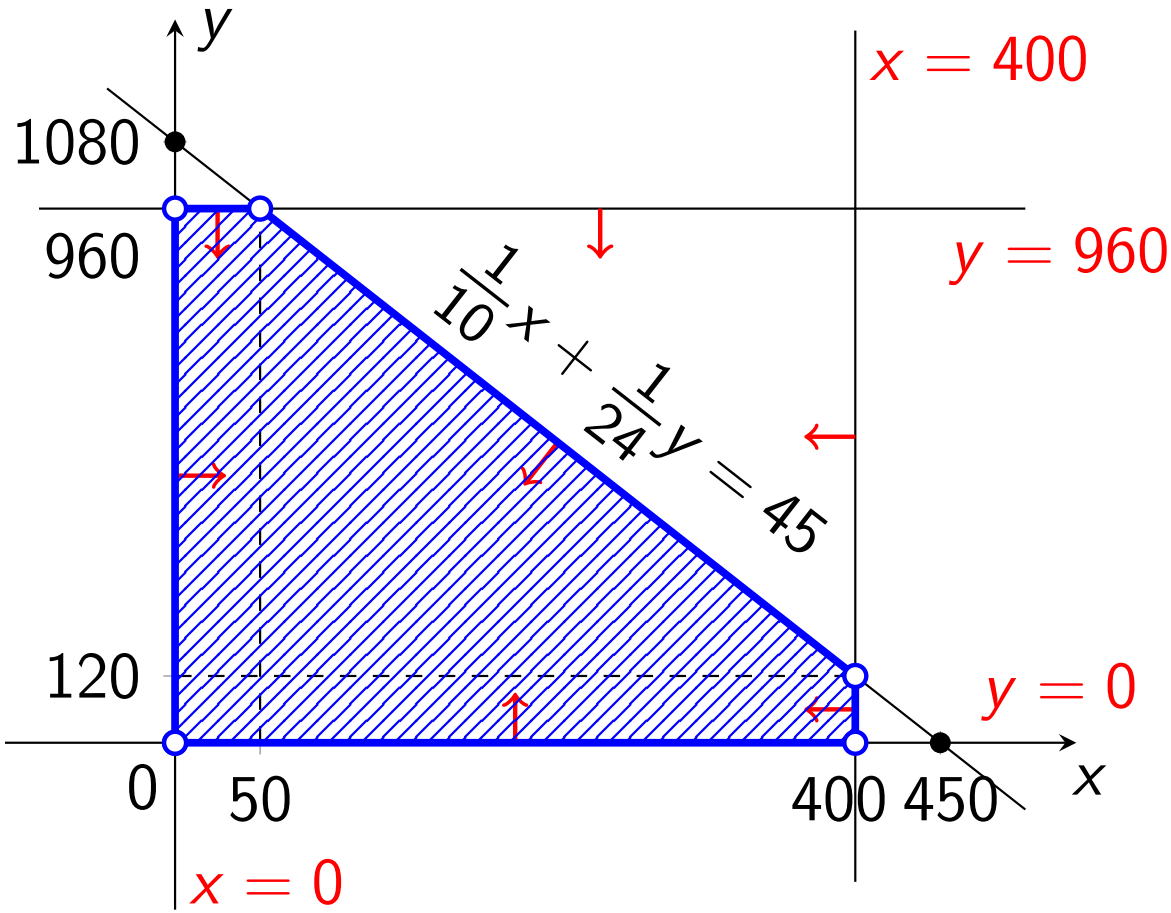
$(0, 0),\ (400, 0),\ (0, 960),$

$\begin{matrix} x & y \end{matrix}$ $\begin{matrix} x & y \end{matrix}$

$(400, 120),\ (50, 960)$

$P(x, y) = 20x + 18y$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0$



$P = 20x + 18y$

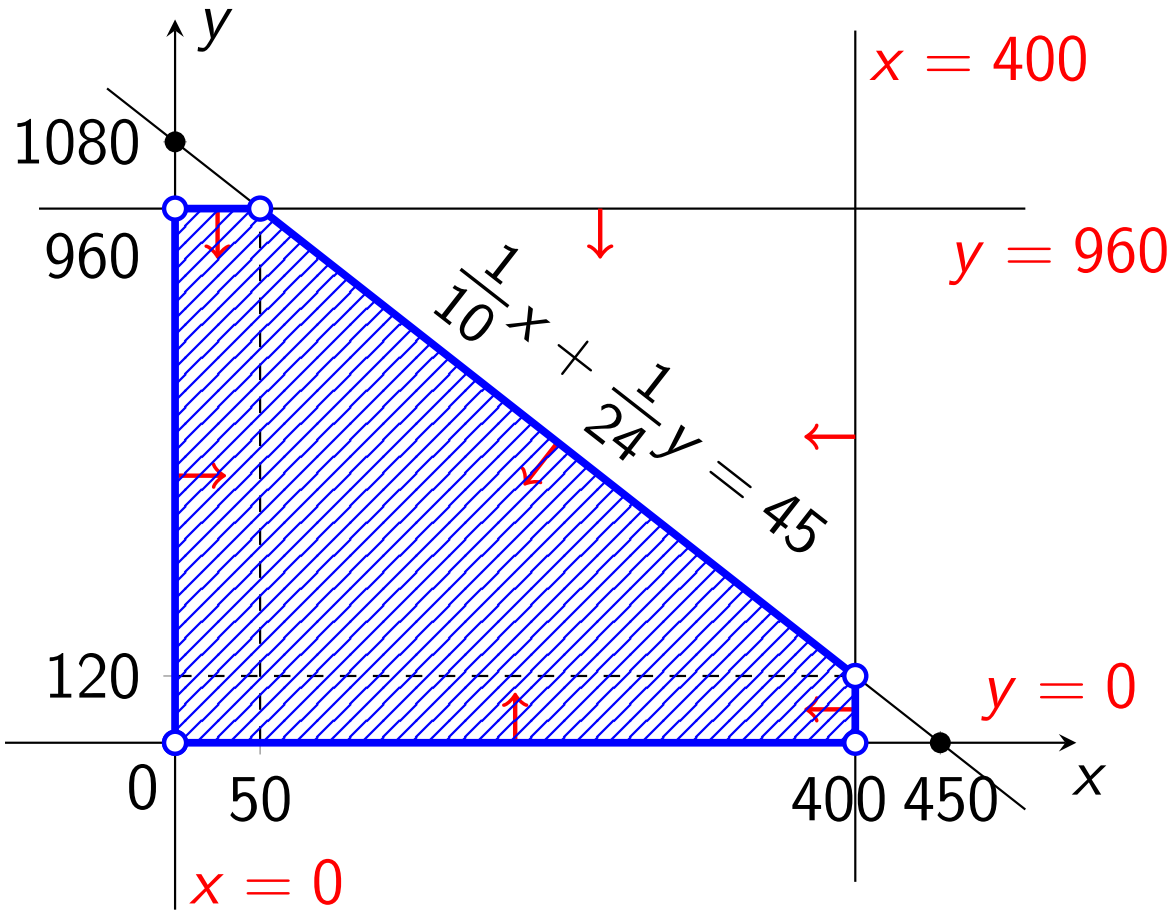
Vršna rješenja

$\underset{x}{} \underset{y}{}$
$(0, 0),$ $\underset{x}{} \underset{y}{}$
$(400, 0),$ $\underset{x}{} \underset{y}{}$
$(0, 960),$

$\underset{x}{} \underset{y}{}$
$(400, 120),$ $\underset{x}{} \underset{y}{}$
$(50, 960)$

$P(x, y) = 20x + 18y$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$



$P = 20x + 18y$

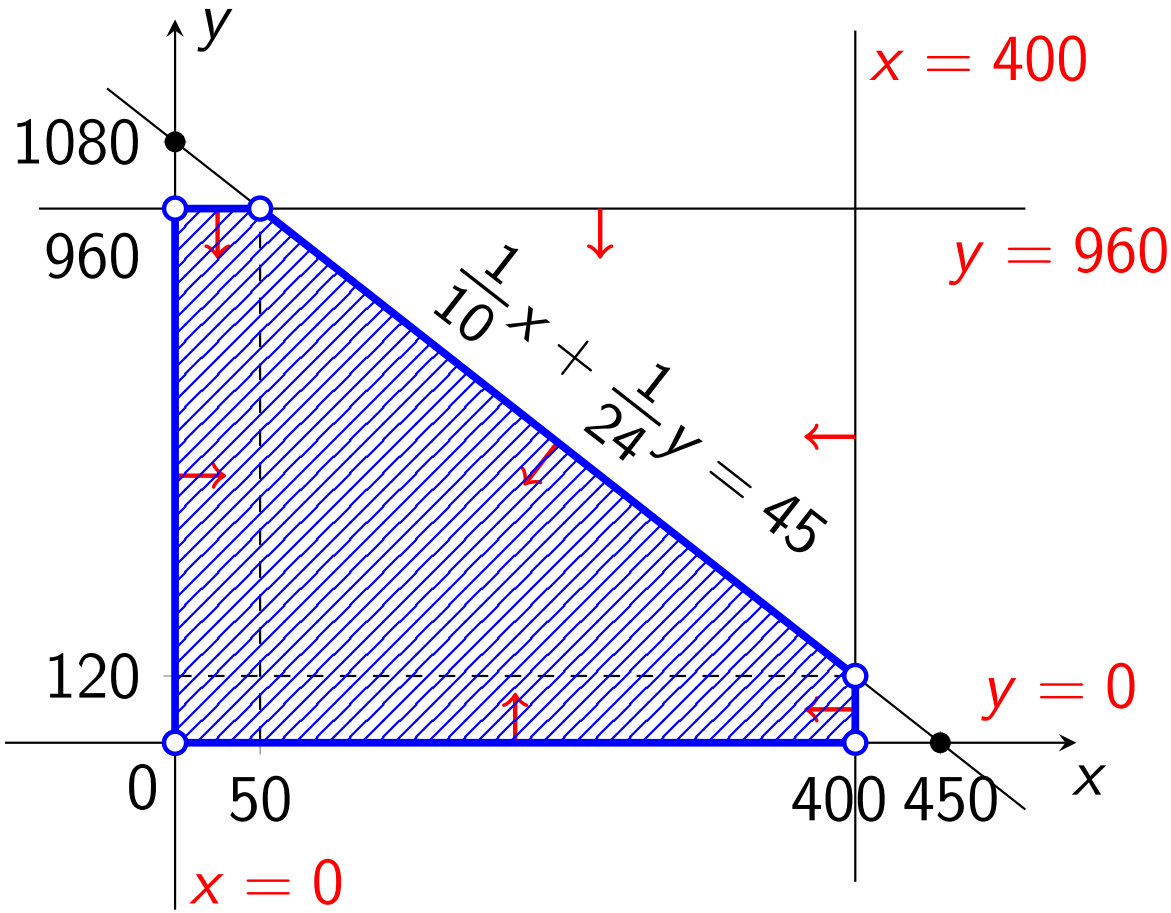
Vršna rješenja

$x \;\; y$
$(0, 0)$, $x \;\; y$ $(400, 0)$, $x \;\; y$ $(0, 960)$,
$x \;\; y$ $(400, 120)$, $x \;\; y$ $(50, 960)$

$P(x, y) = 20x + 18y$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$

$P(400, 0) =$



$P = 20x + 18y$

Vršna rješenja

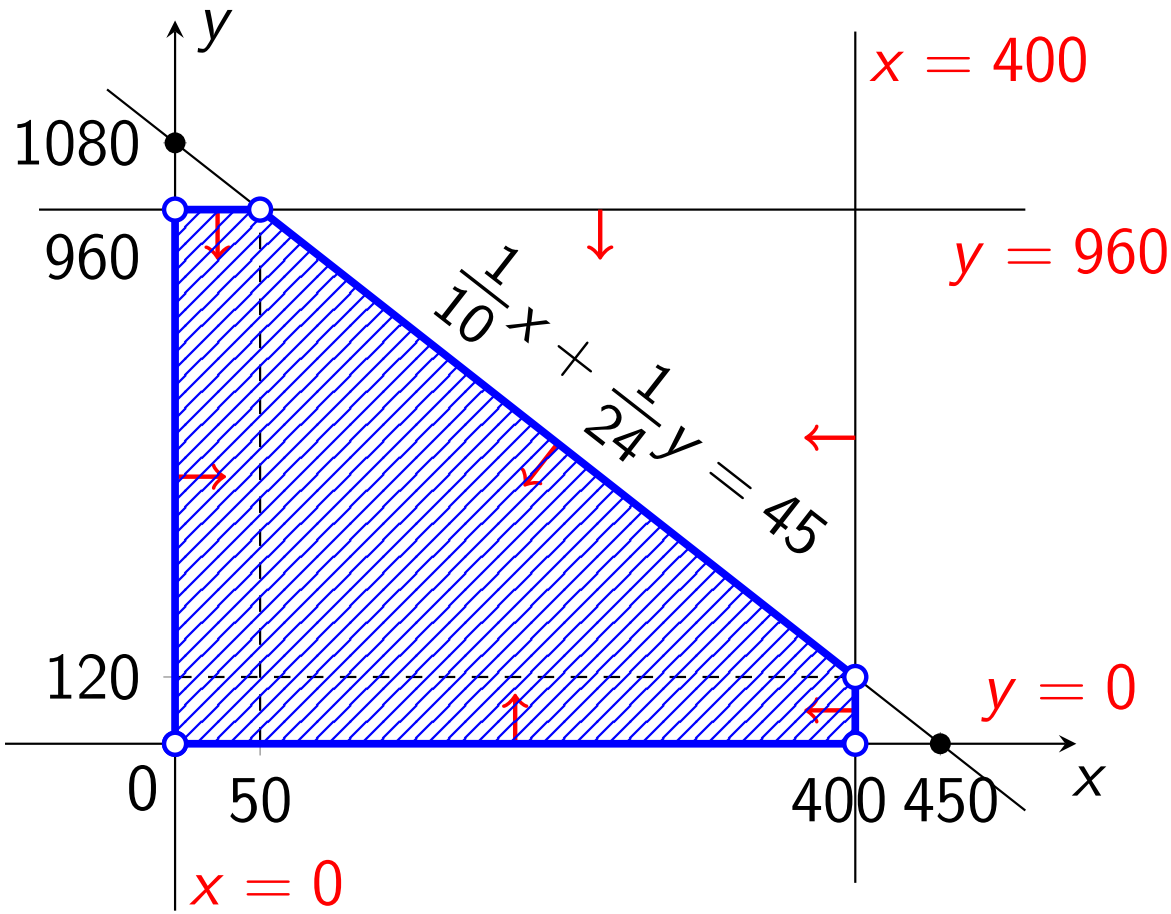
$(0, 0)$, $(400, 0)$, $(0, 960)$,

$(400, 120)$, $(50, 960)$

$P(x, y) = 20x + 18y$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$

$P(400, 0) = 20 \cdot 400 + 18 \cdot 0$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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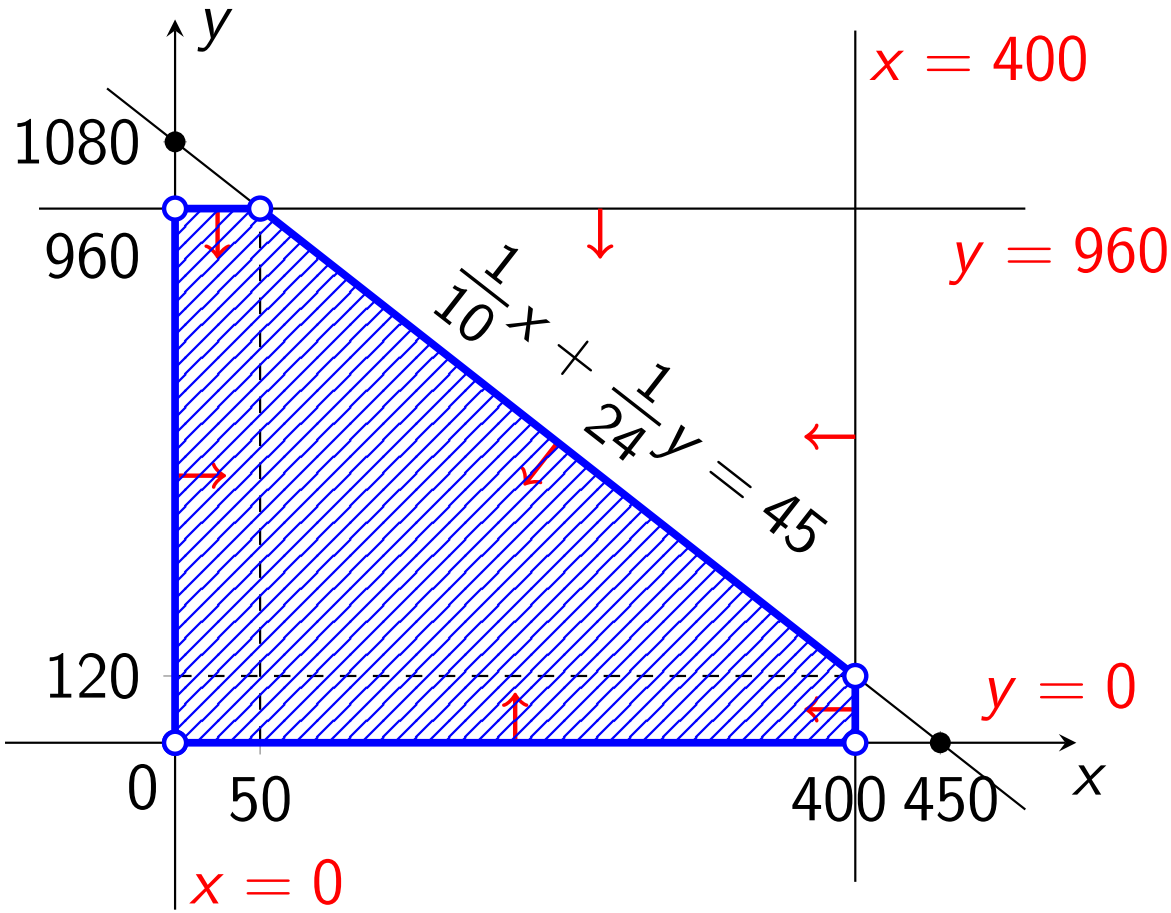


$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

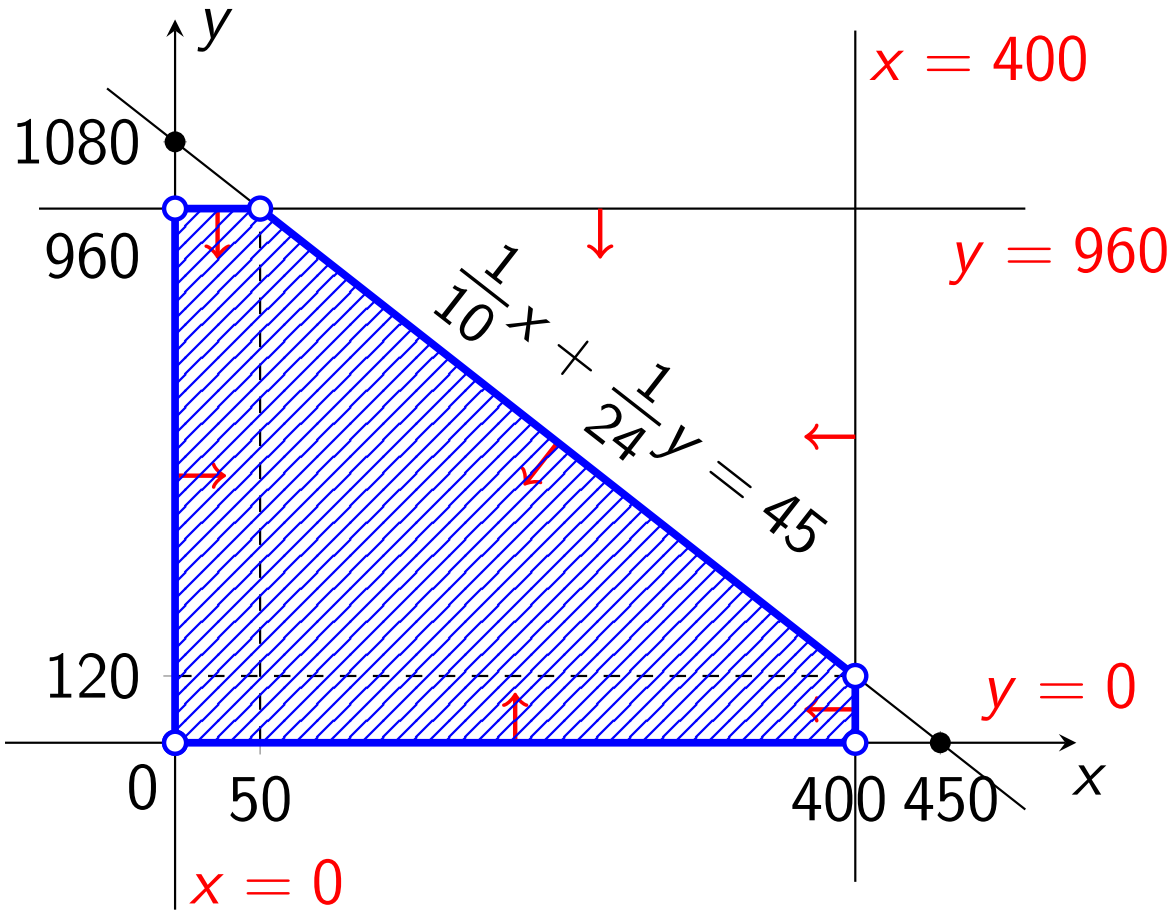
$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

$$P(x, y) = 20x + 18y$$

$$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$$

$$P(400, 0) = 20 \cdot 400 + 18 \cdot 0 = 8\,000$$

$$P(0, 960) =$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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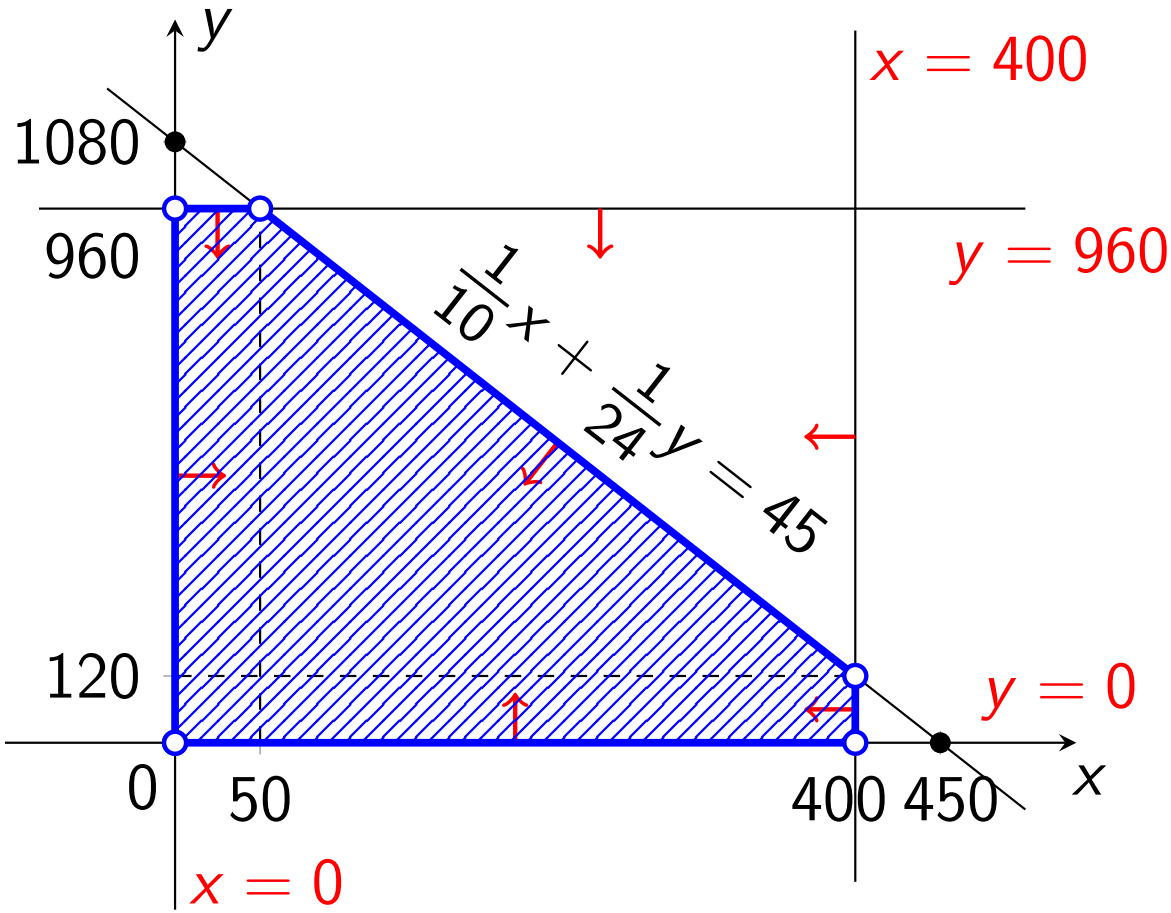

$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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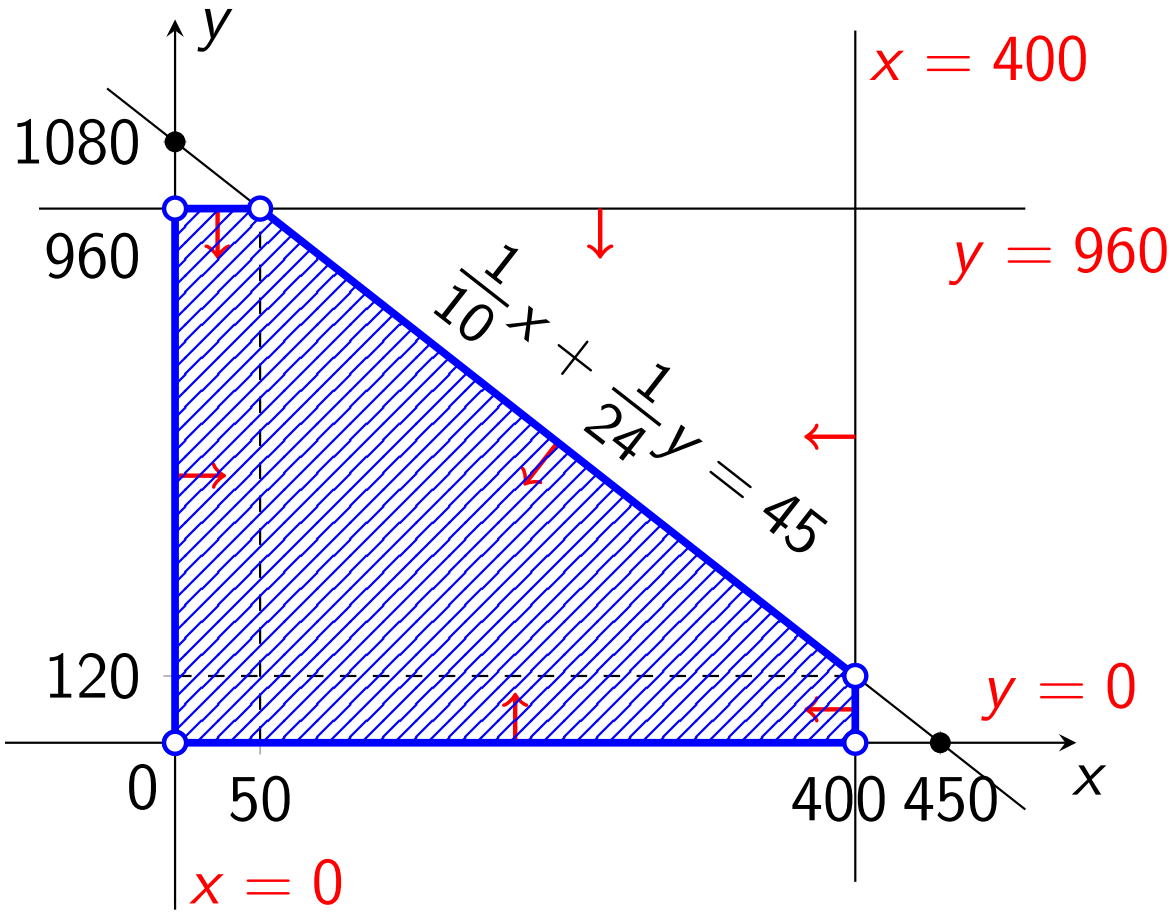
$$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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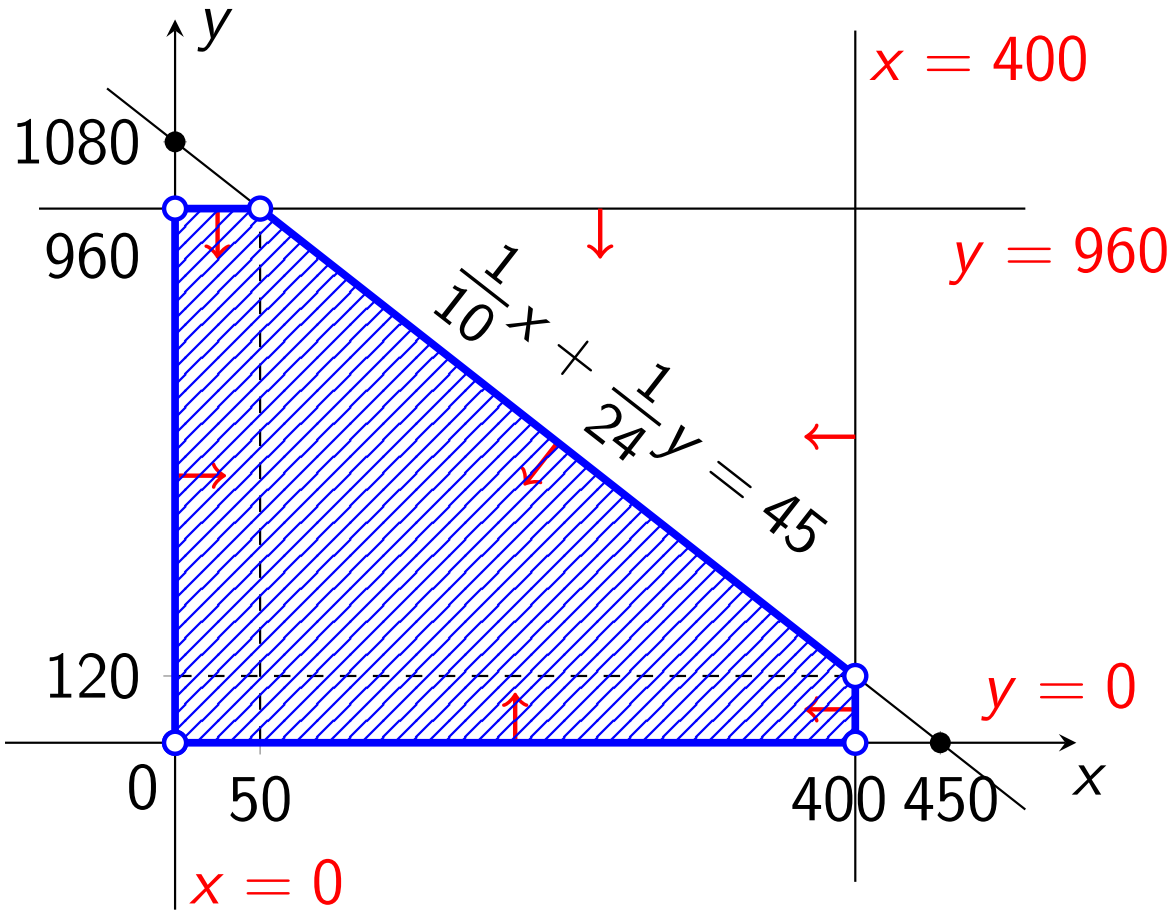
$$P(400, 120) =$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

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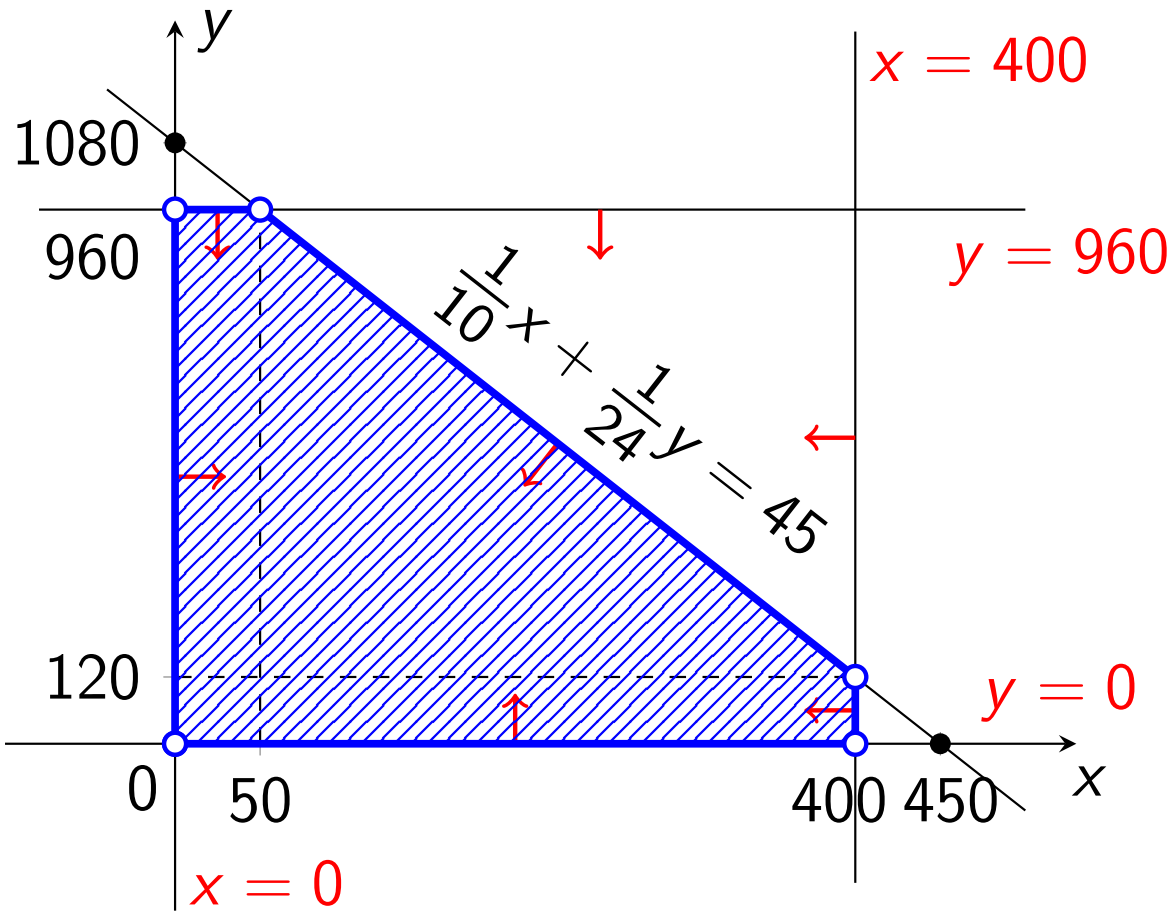
$$P(400, 120) = 20 \cdot 400 + 18 \cdot 120$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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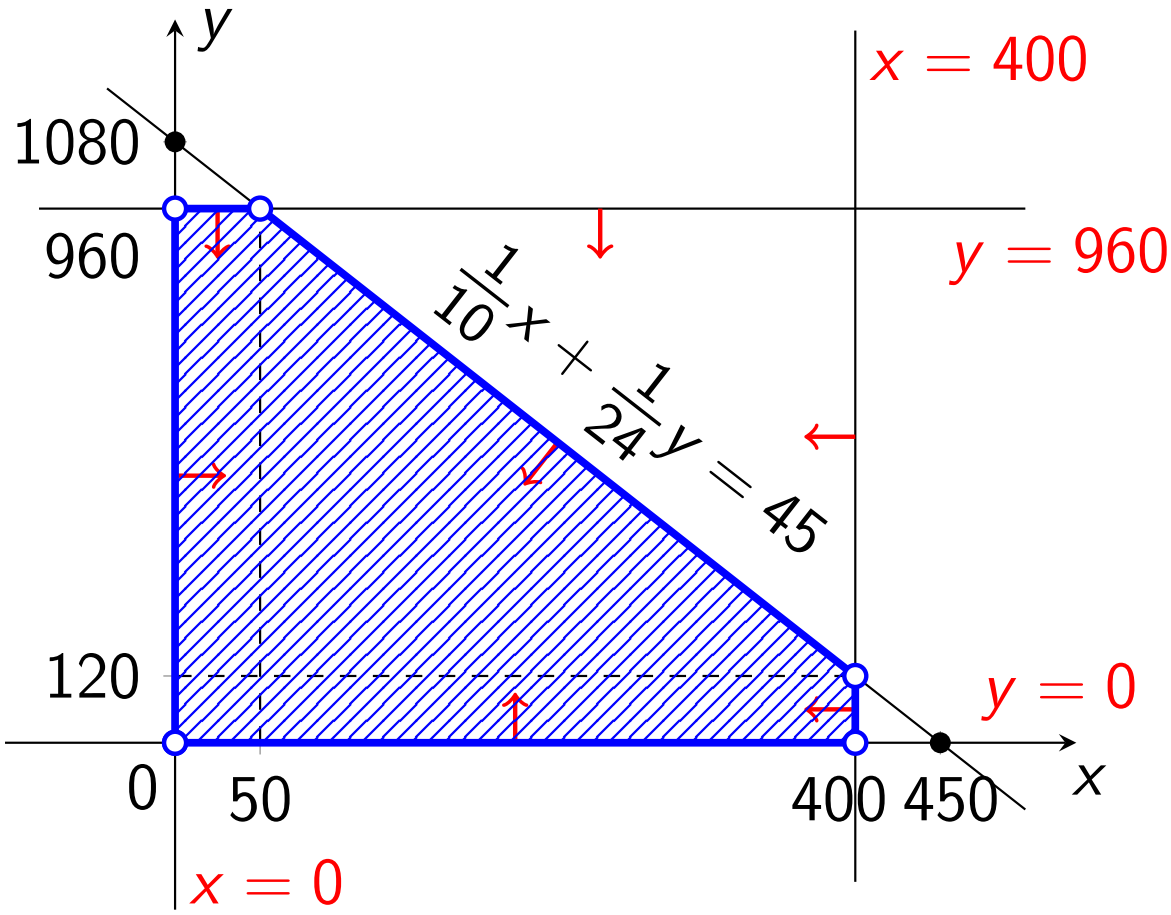
$$P(400, 0) = 20 \cdot 400 + 18 \cdot 0 = 8\,000$$

$$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$$

$$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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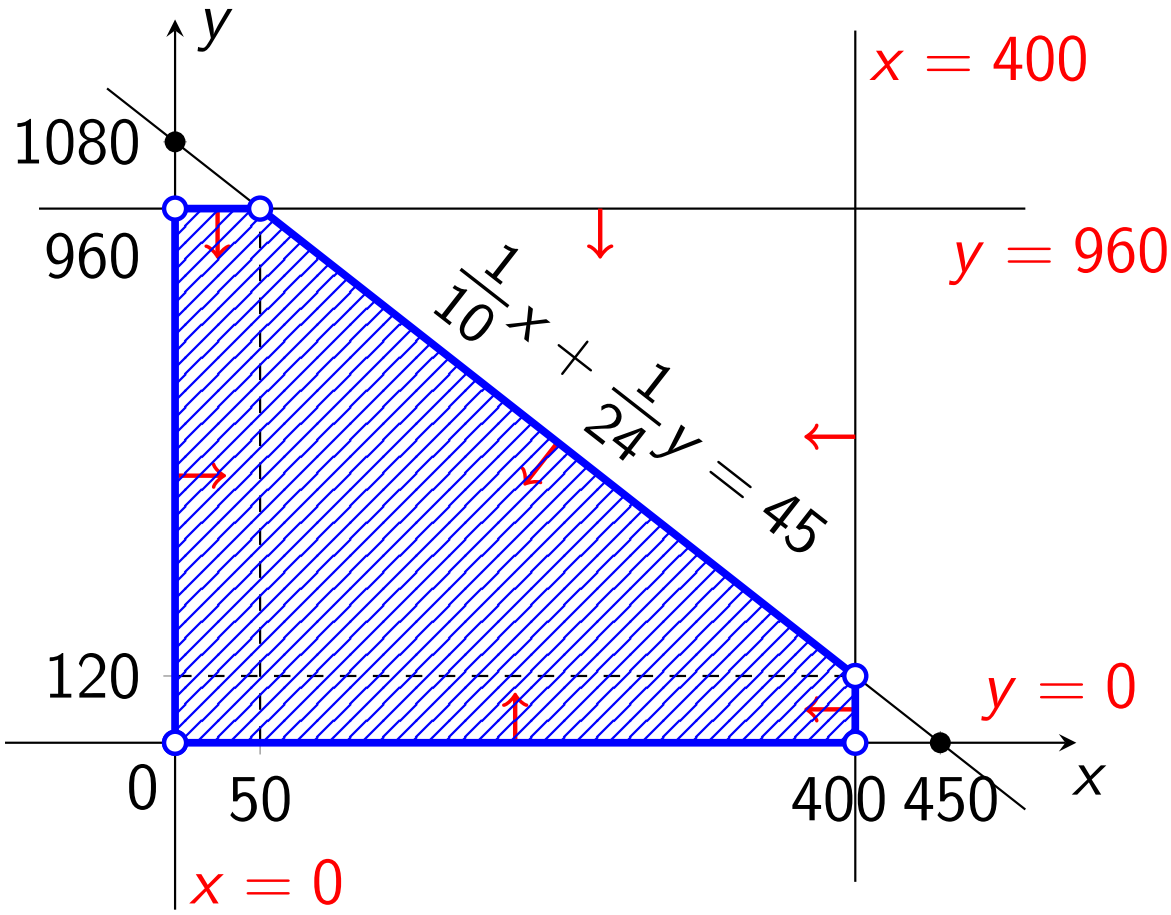
$$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$$

$$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$$

$$P(50, 960) =$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

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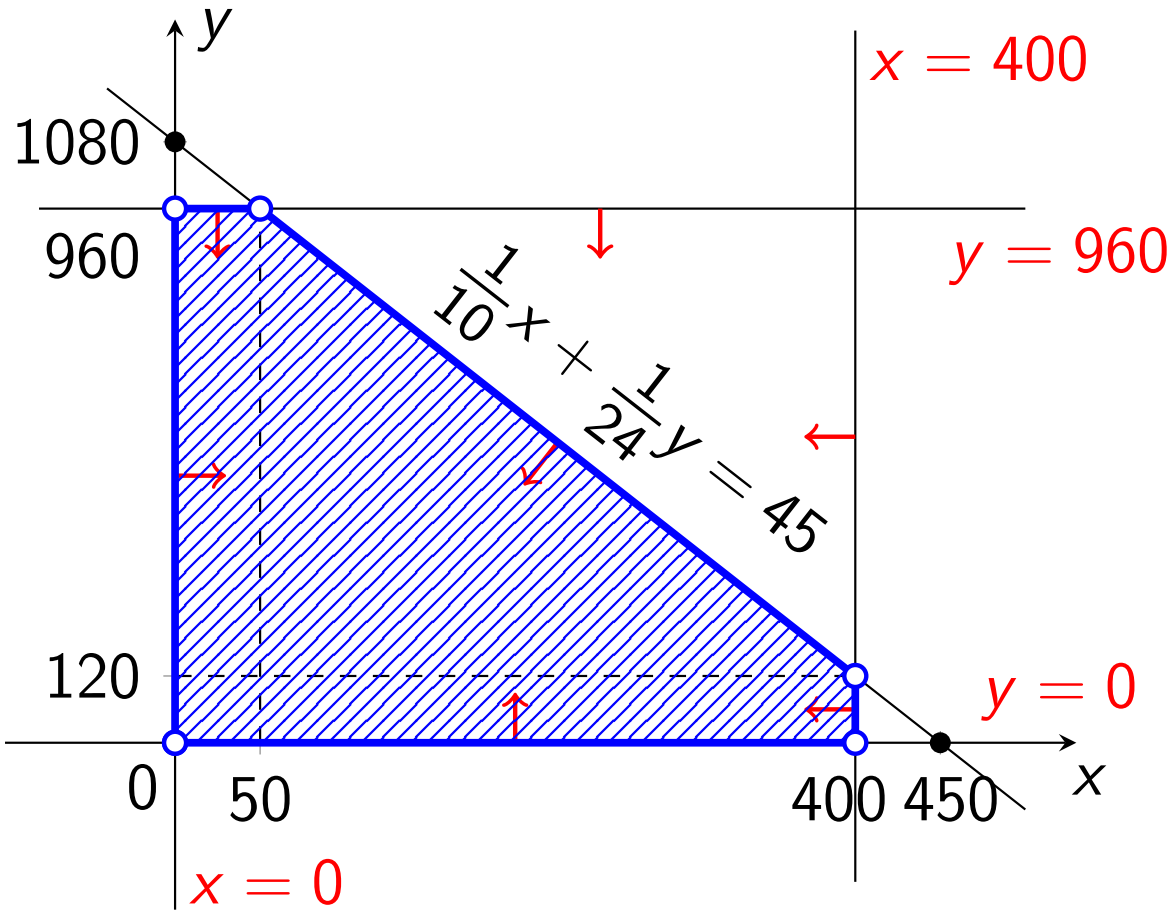
$$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$$

$$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$$

$$P(50, 960) = 20 \cdot 50 + 18 \cdot 960$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

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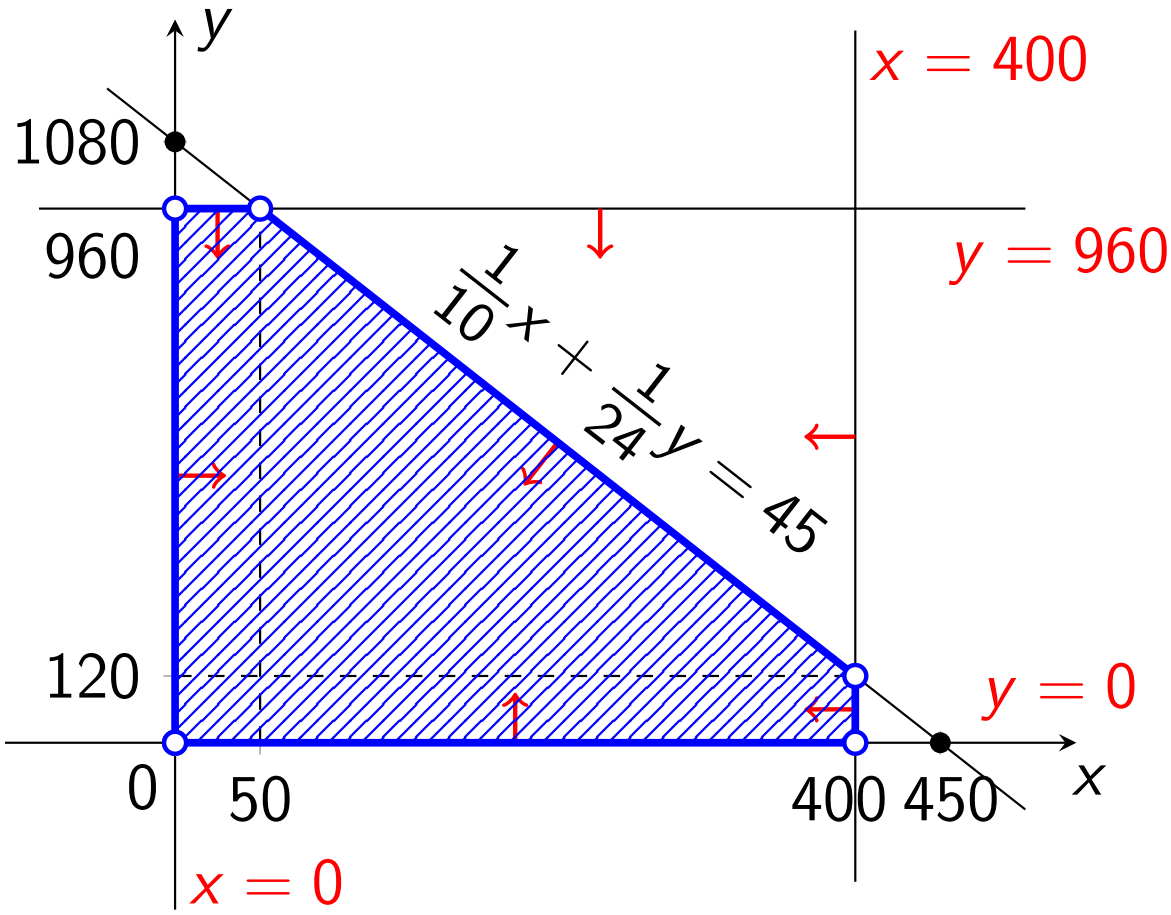
$$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$$

$$P(50, 960) = 20 \cdot 50 + 18 \cdot 960 = 18\,280$$



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

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$$P(x, y) = 20x + 18y$$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$ ← MINIMUM

$P(400, 0) = 20 \cdot 400 + 18 \cdot 0 = 8\,000$

$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$

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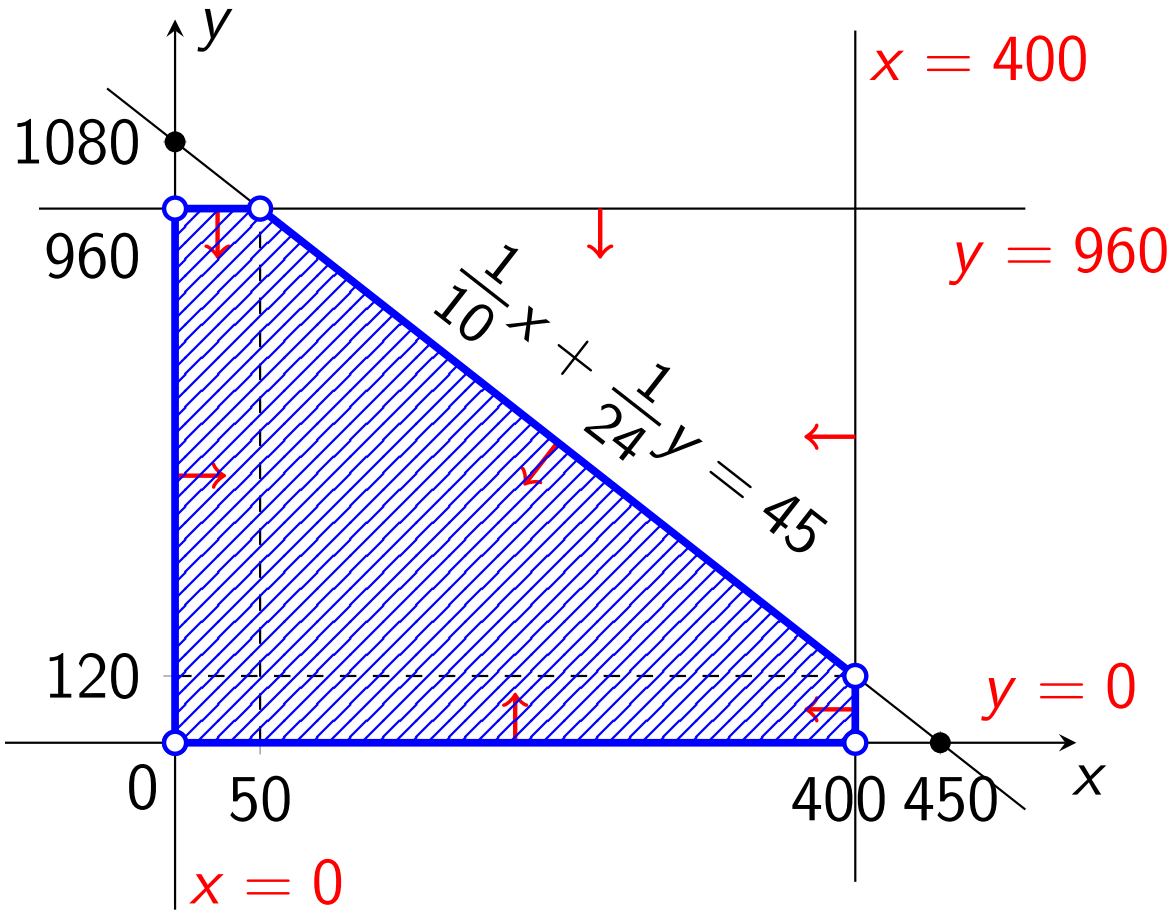


$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

$$P(x, y) = 20x + 18y$$

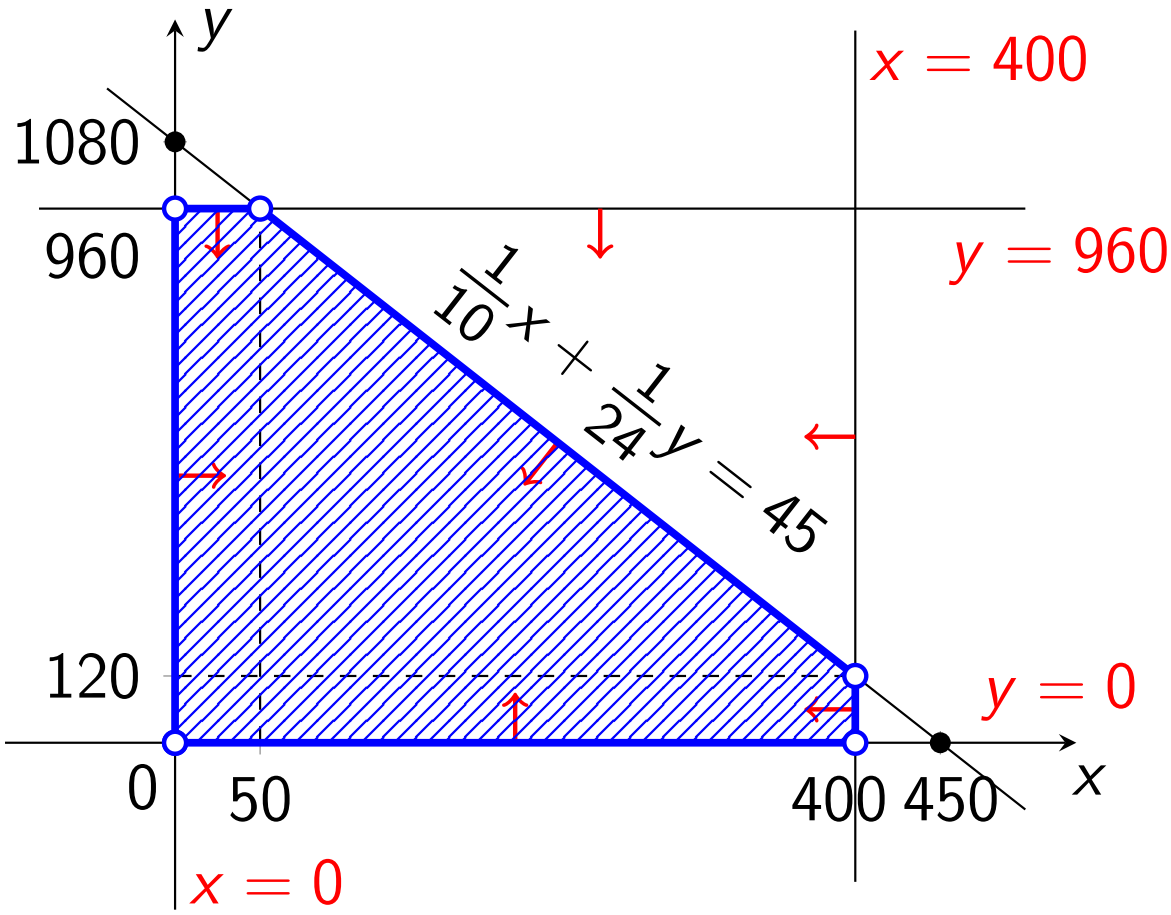
$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$ ⇜ MINIMUM

$P(400, 0) = 20 \cdot 400 + 18 \cdot 0 = 8\,000$

$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$

$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$

$P(50, 960) = 20 \cdot 50 + 18 \cdot 960 = 18\,280$ ⇜ MAKSIMUM



$$P = 20x + 18y$$

Vršna rješenja

$$\underset{x}{(0}\ \underset{y}{0}),\quad \underset{x}{(400}\ \underset{y}{0}),\quad \underset{x}{(0}\ \underset{y}{960}),$$

$$\underset{x}{(400}\ \underset{y}{120}),\quad \underset{x}{(50}\ \underset{y}{960})$$

$$P(x, y) = 20x + 18y$$

$P(0, 0) = 20 \cdot 0 + 18 \cdot 0 = 0$ ⇜ MINIMUM

$P(400, 0) = 20 \cdot 400 + 18 \cdot 0 = 8\,000$

$P(0, 960) = 20 \cdot 0 + 18 \cdot 960 = 17\,280$

$P(400, 120) = 20 \cdot 400 + 18 \cdot 120 = 10\,160$

$P(50, 960) = 20 \cdot 50 + 18 \cdot 960 = 18\,280$ ⇜ MAKSIMUM

Maksimalni prihod iznosi 18 280 € ako se proizvede 50 igrački A i 960 igrački B.

drugi zadatak

Zadatak 2

Vitamini A i B nalaze se u dvije vrste tableta P i Q. Tableta P ima jednu jedinicu vitamina A i četiri jedinice vitamina B. Tableta Q ima tri jedinice vitamina A i četiri jedinice vitamina B. Cijena jedne tablete P je 10 *novčanih jedinica, a jedne tablete Q je* 12 *novčanih jedinica. Koliko tableta P i koliko tableta Q treba kupiti da bi se dobilo najmanje* 10 *jedinica vitamina A i najmanje* 24 *jedinice vitamina B tako da su troškovi nabave najmanji?*

Rješenje

Oznake

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$p \geqslant 0, \quad q \geqslant 0$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A			
B			

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1		
B			

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1		
B	4		

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	
B	4		

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	
B	4	4	

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	
B	4	4	

$/ \cdot p$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	
B	4	4	
	$/\cdot p$	$/\cdot q$	

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

$$p + 3q \geqslant 10$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$p \geqslant 0, \quad q \geqslant 0$$

	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

$$p + 3q \geqslant 10$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	$\geqslant 24$
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

$$\boxed{p + 3q \geqslant 10}$$

- potrebno je barem 24 jedinica vitamina B

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$\boxed{p \geqslant 0, \quad q \geqslant 0}$$

	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	$\geqslant 24$
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

$$\boxed{p + 3q \geqslant 10}$$

- potrebno je barem 24 jedinica vitamina B

$$4p + 4q \geqslant 24$$

Rješenje

Oznake

$p \longrightarrow$ broj komada tableti P

$q \longrightarrow$ broj komada tableti Q

Funkcija troškova

$$T = 10p + 12q$$

Ograničenja

- broj komada tableti je broj $\geqslant 0$

$$p \geqslant 0, \quad q \geqslant 0$$

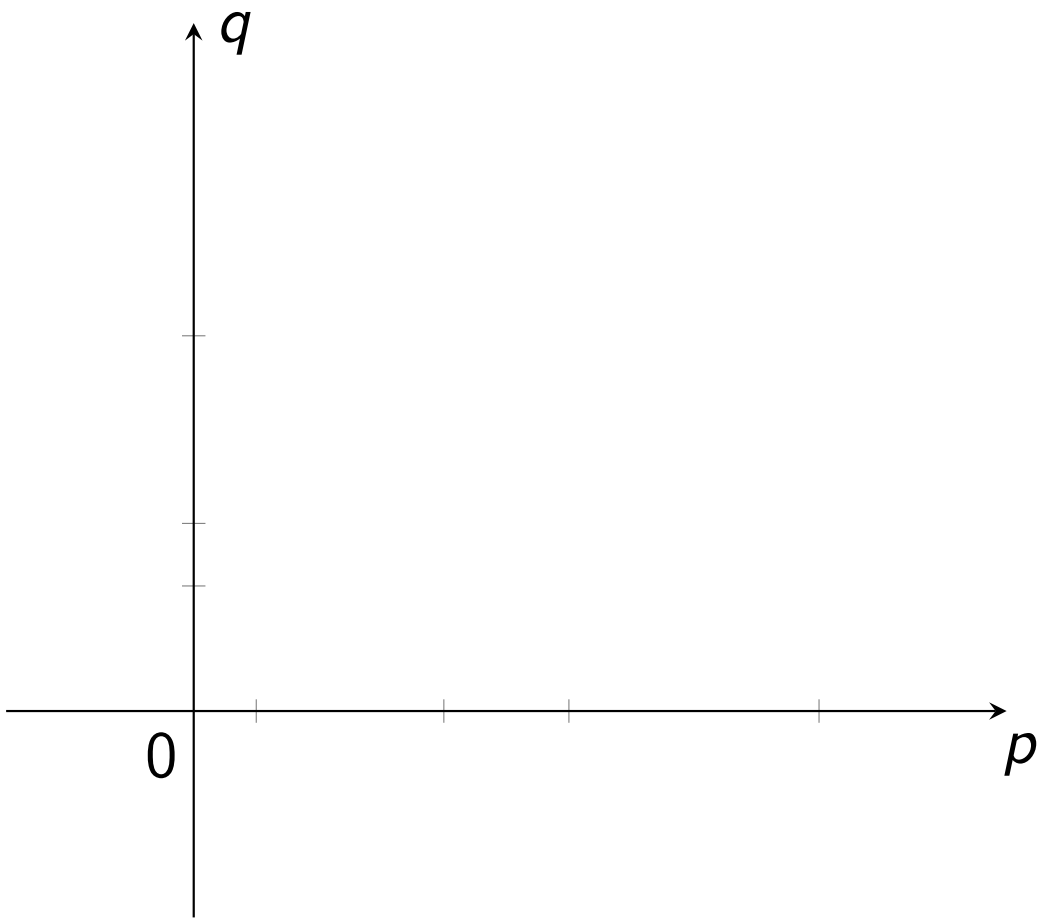
	P	Q	Σ
A	1	3	$\geqslant 10$
B	4	4	$\geqslant 24$
	$/\cdot p$	$/\cdot q$	

- potrebno je barem 10 jedinica vitamina A

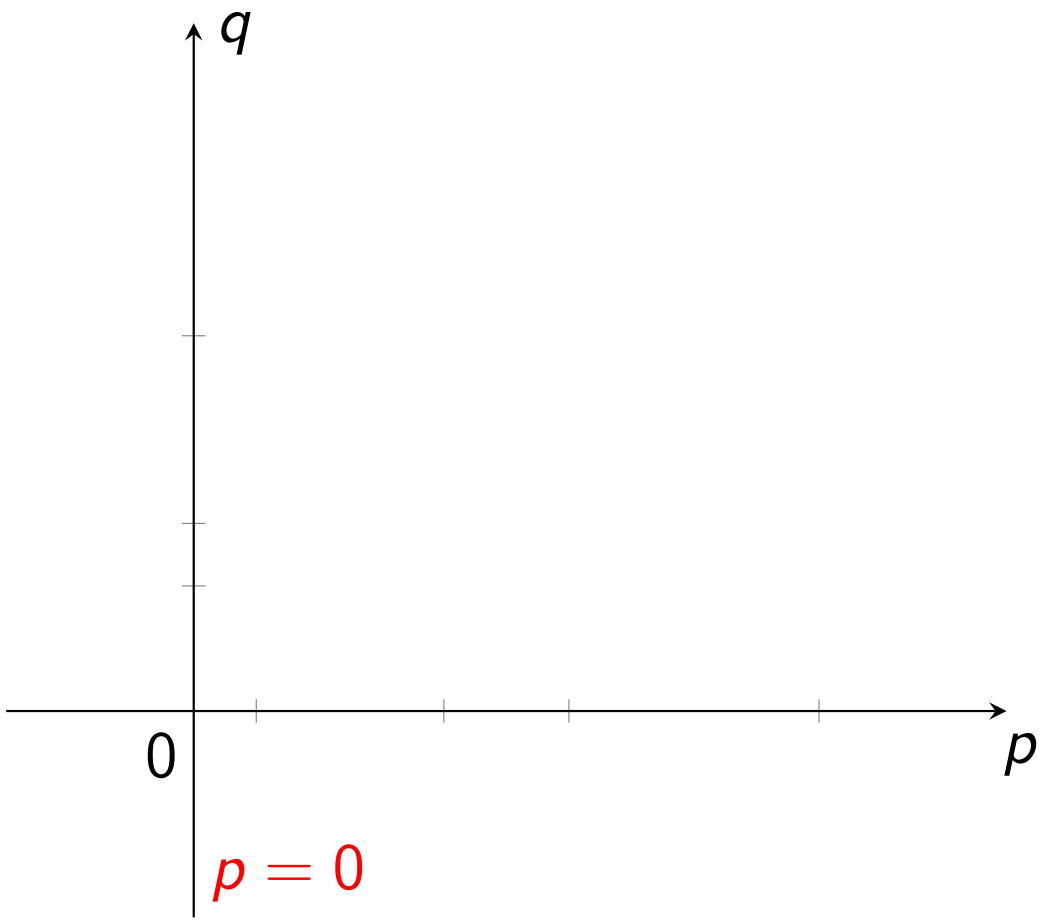
$$p + 3q \geqslant 10$$

- potrebno je barem 24 jedinica vitamina B

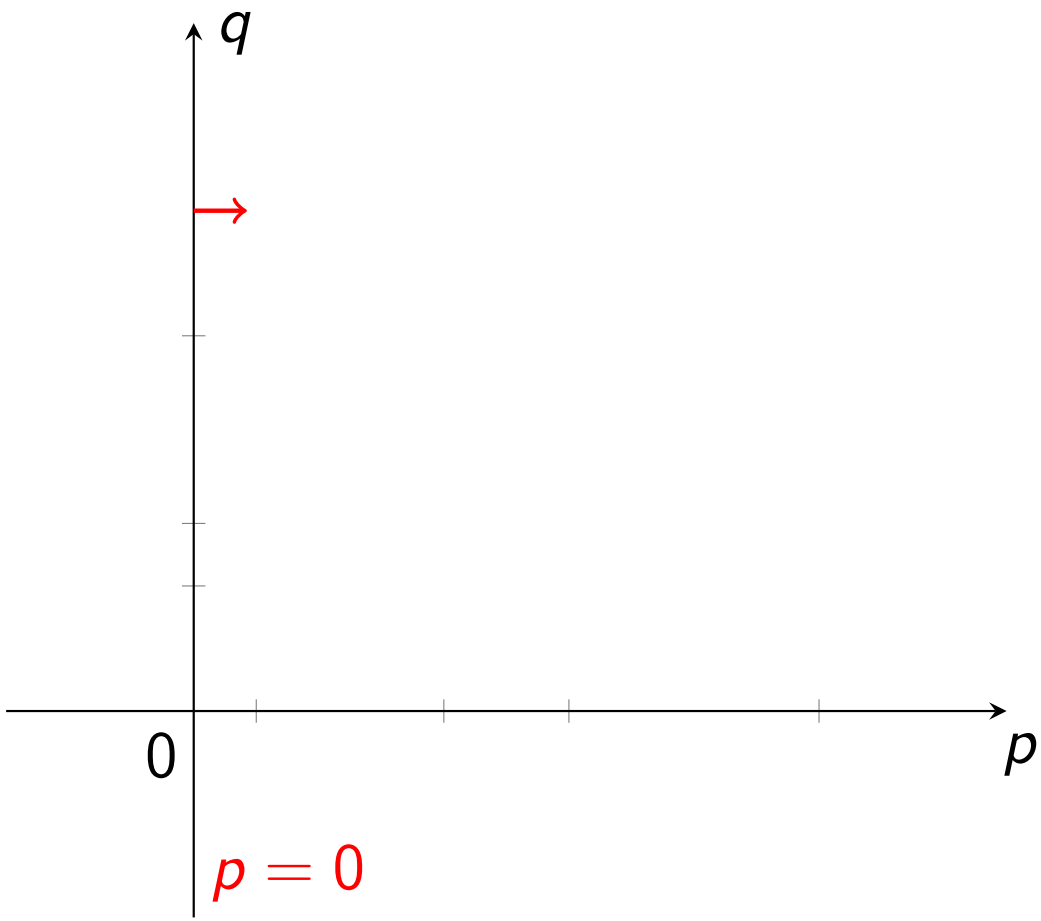
$$4p + 4q \geqslant 24$$



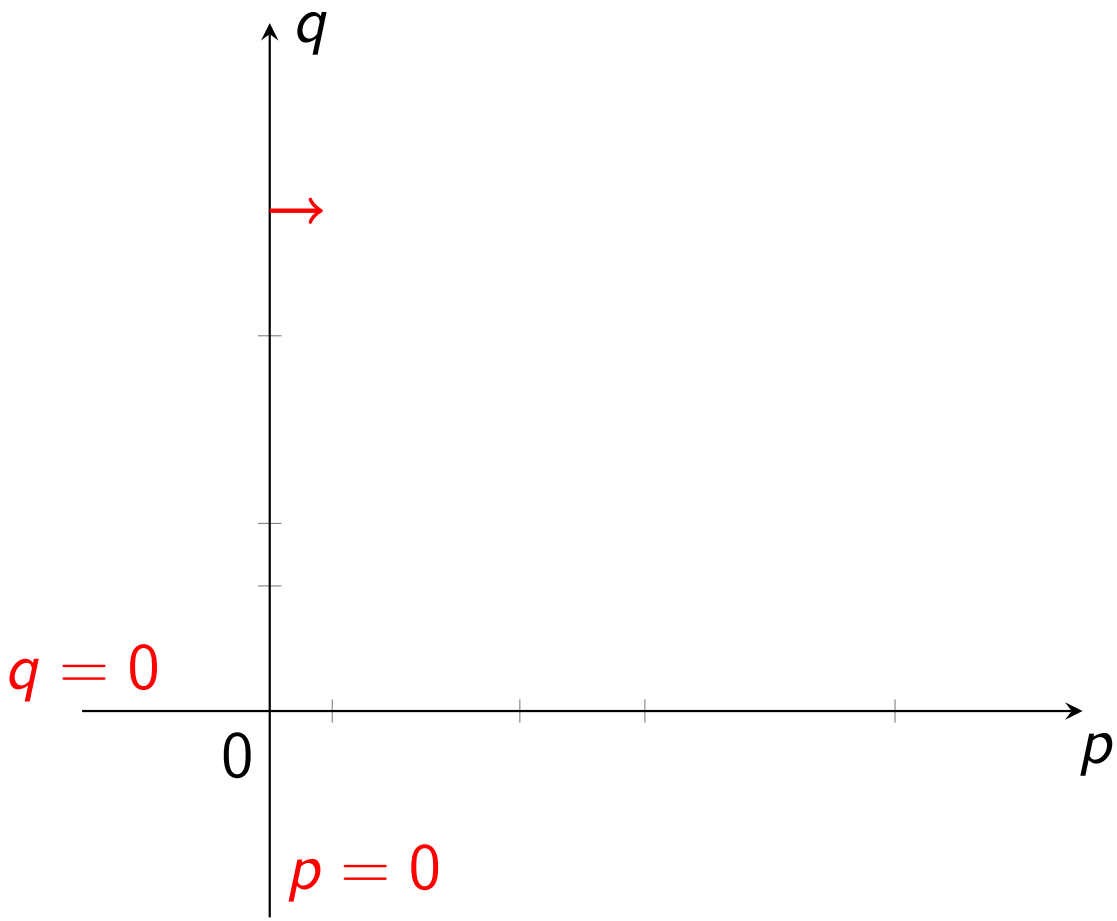
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$



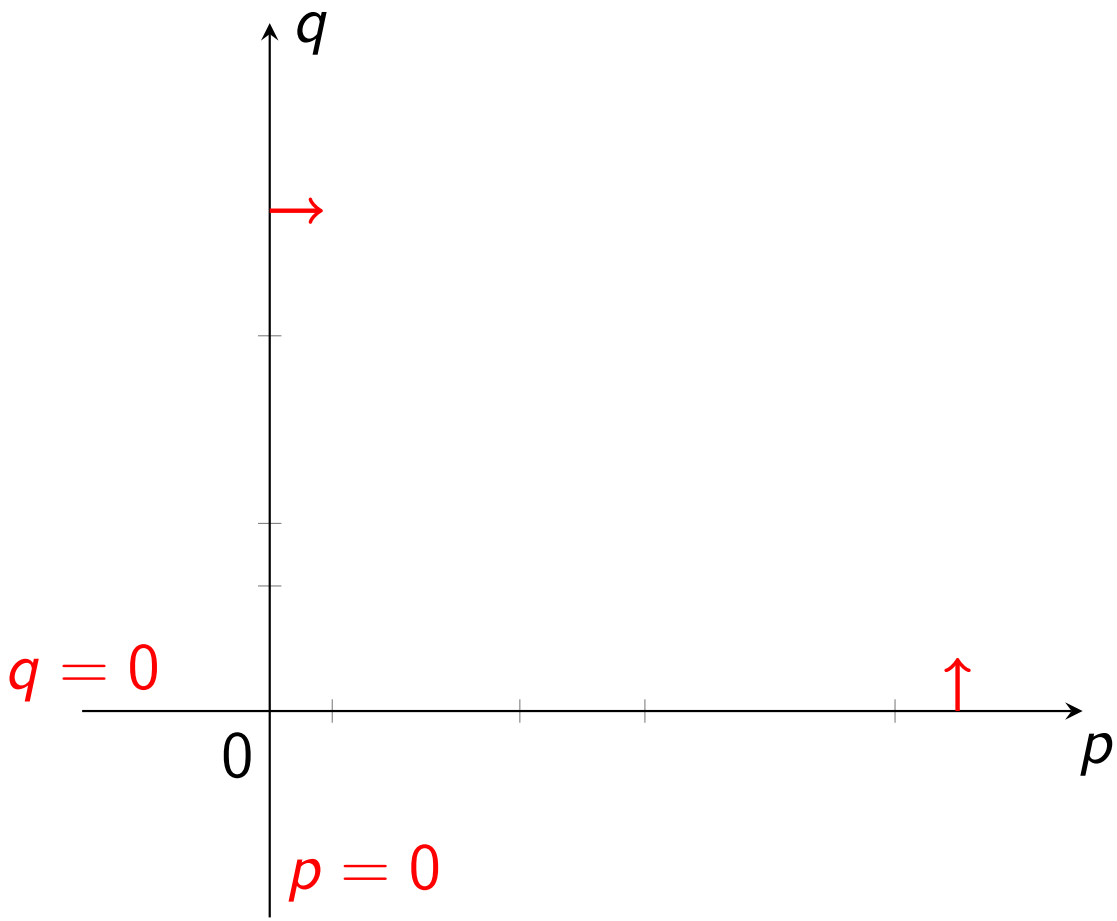
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$



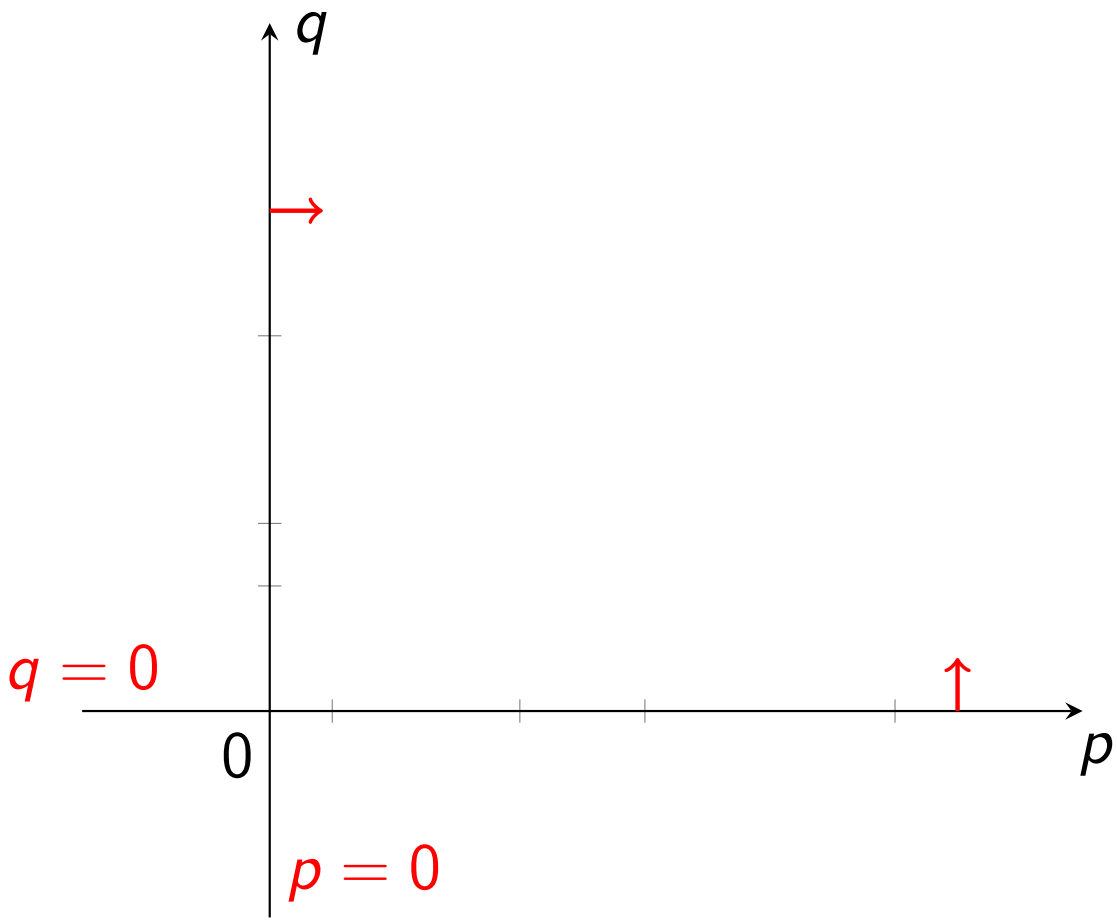
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

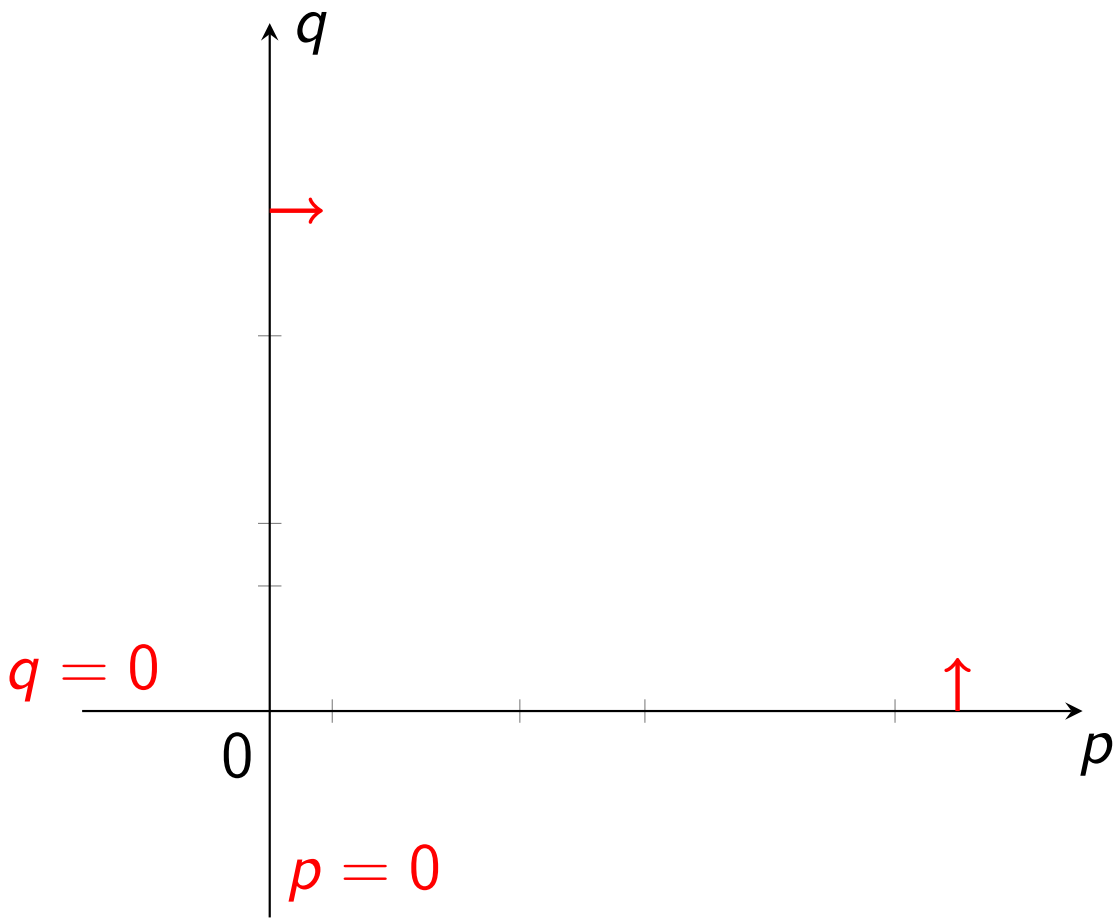


$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

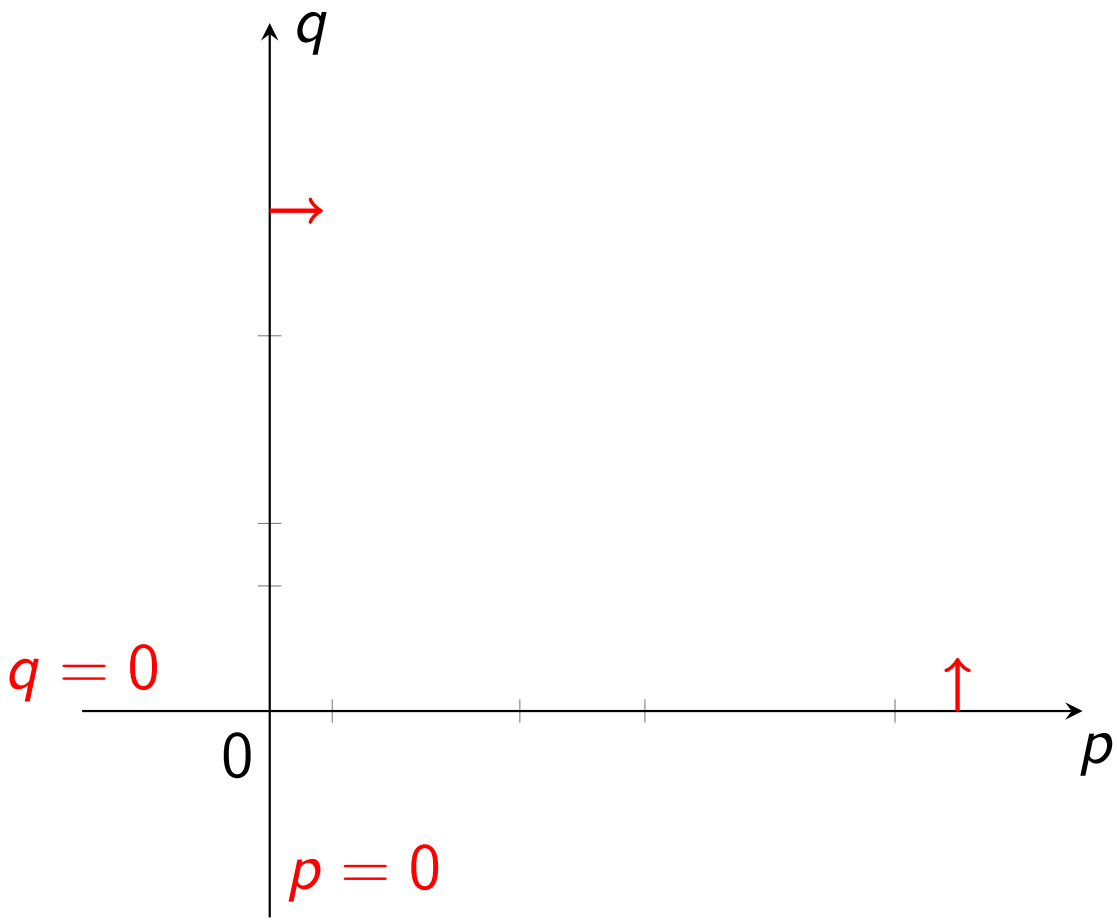
$$p + 3q = 10$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

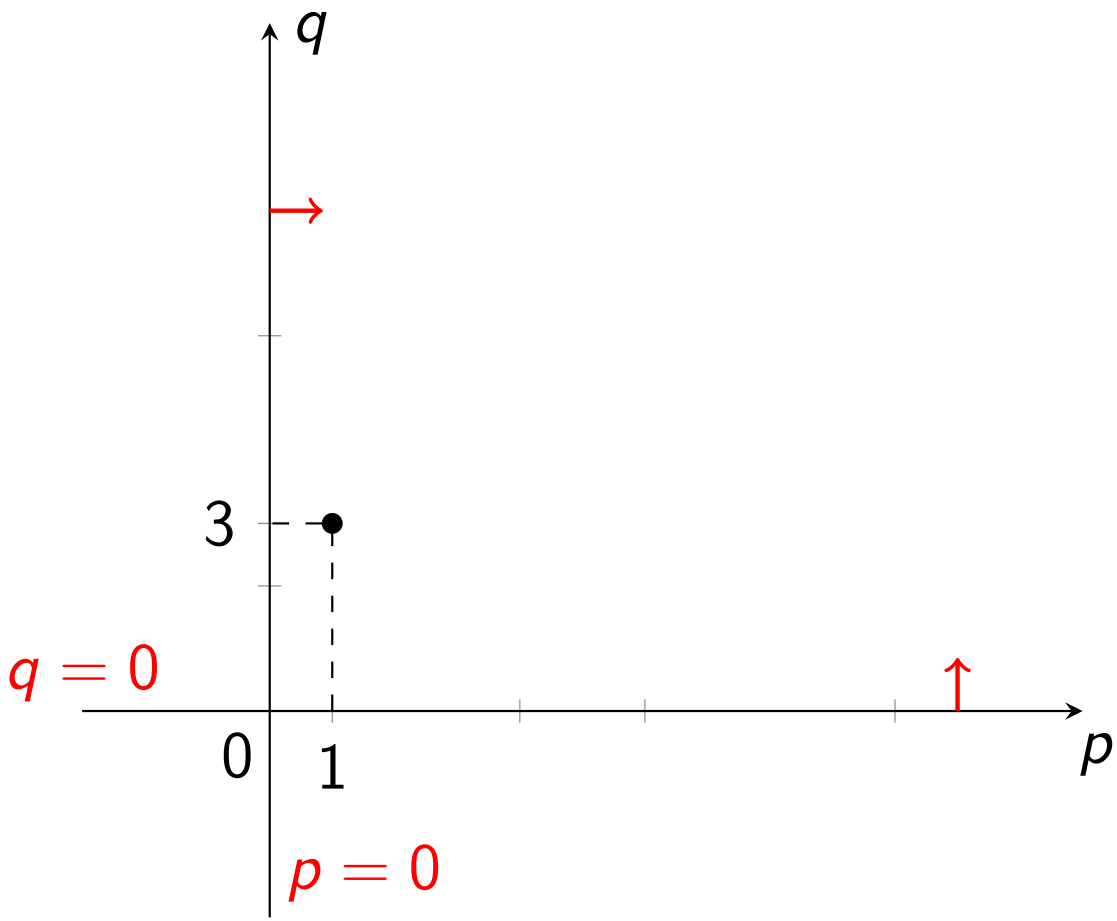
$$p + 3q = 10$$

$$p = 1$$



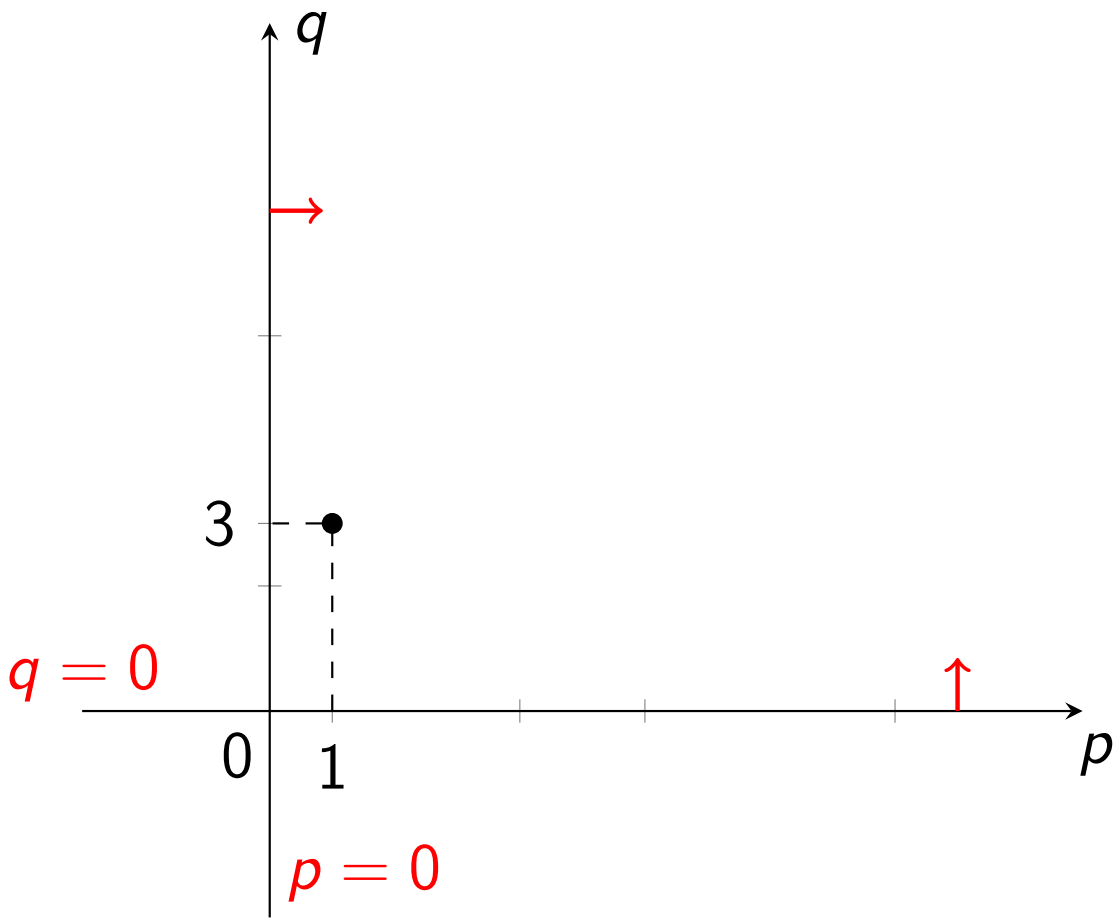
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$



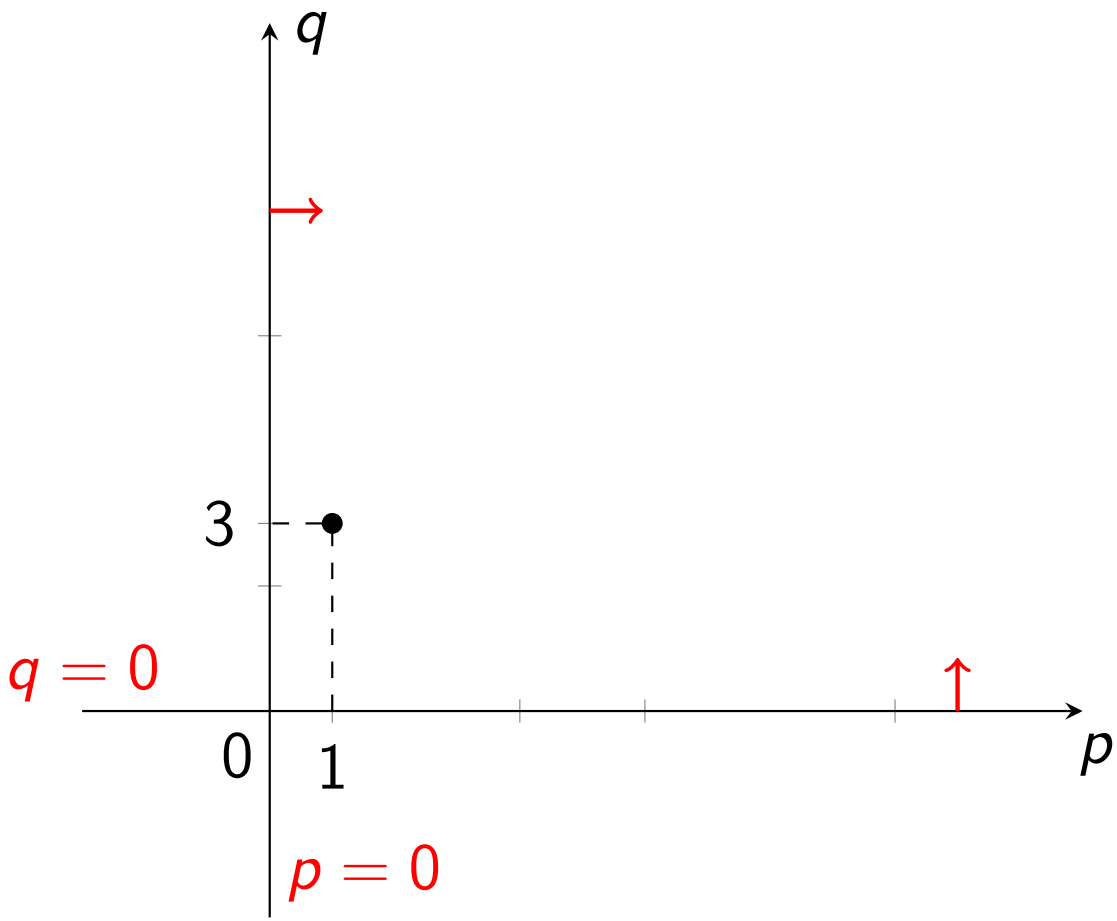
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$



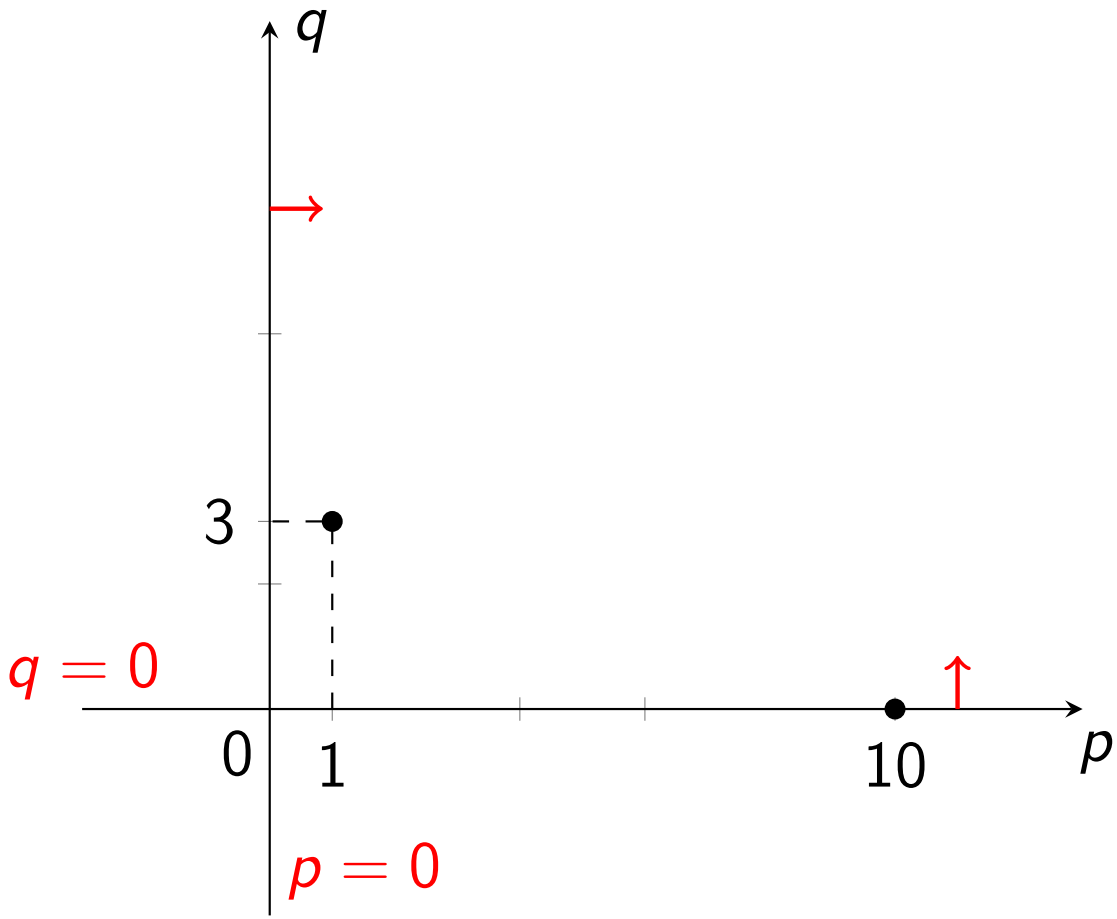
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0$$



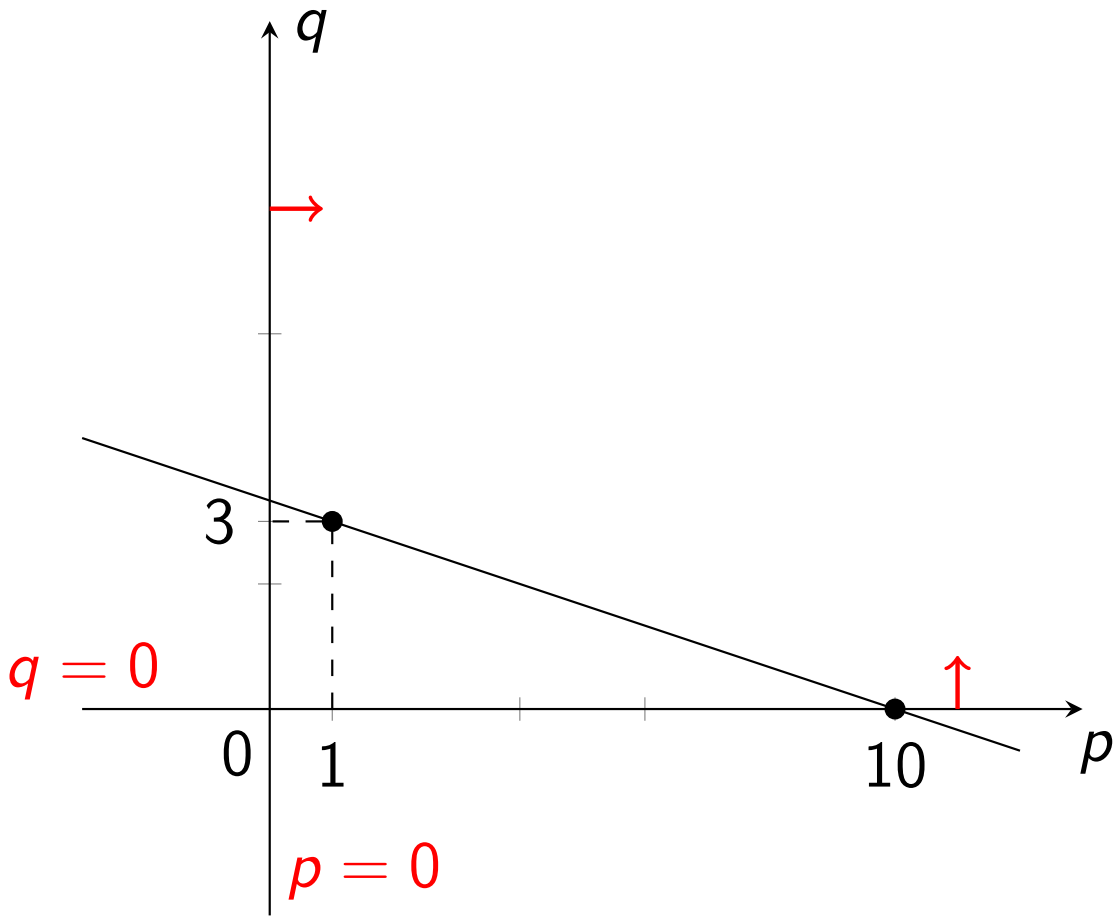
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$



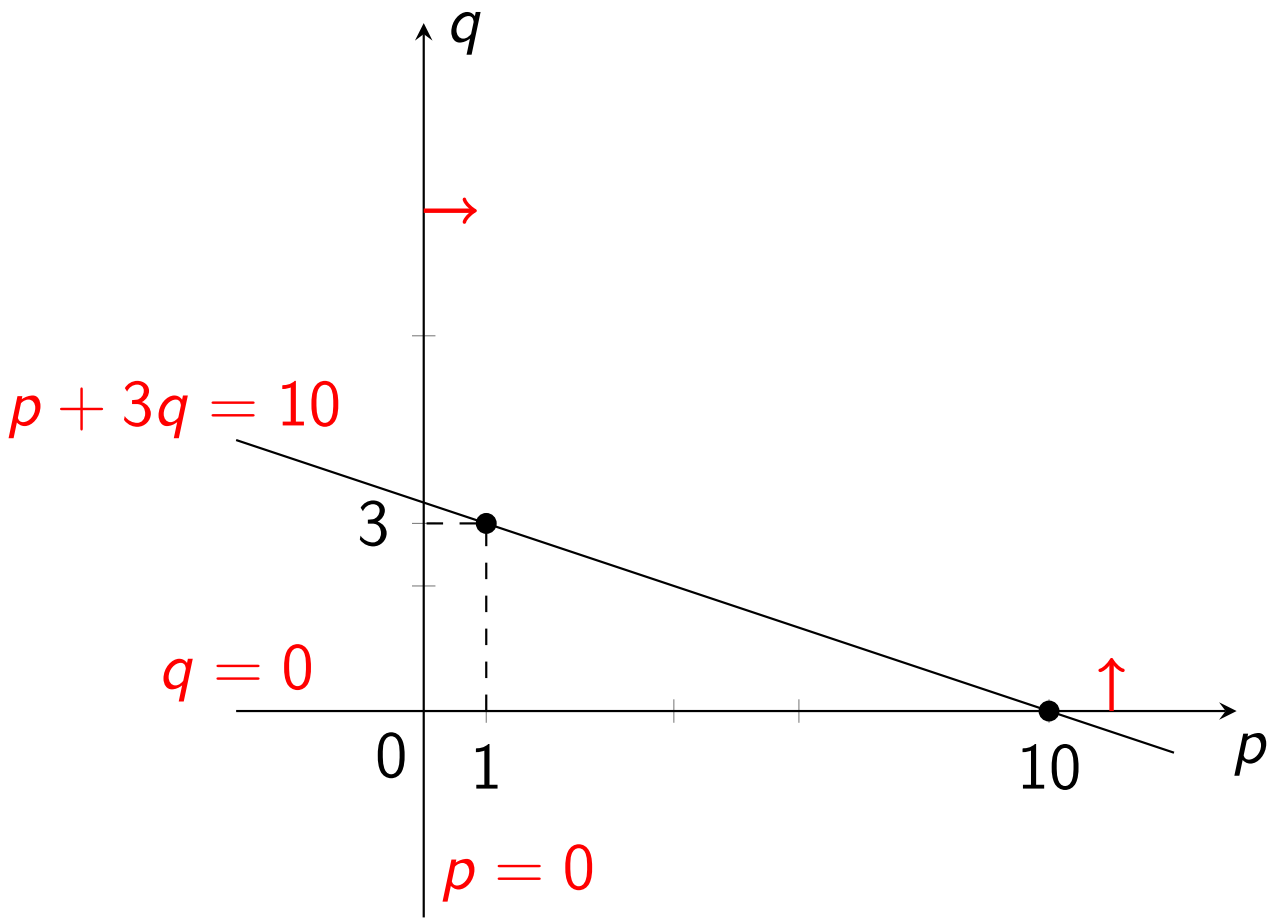
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$



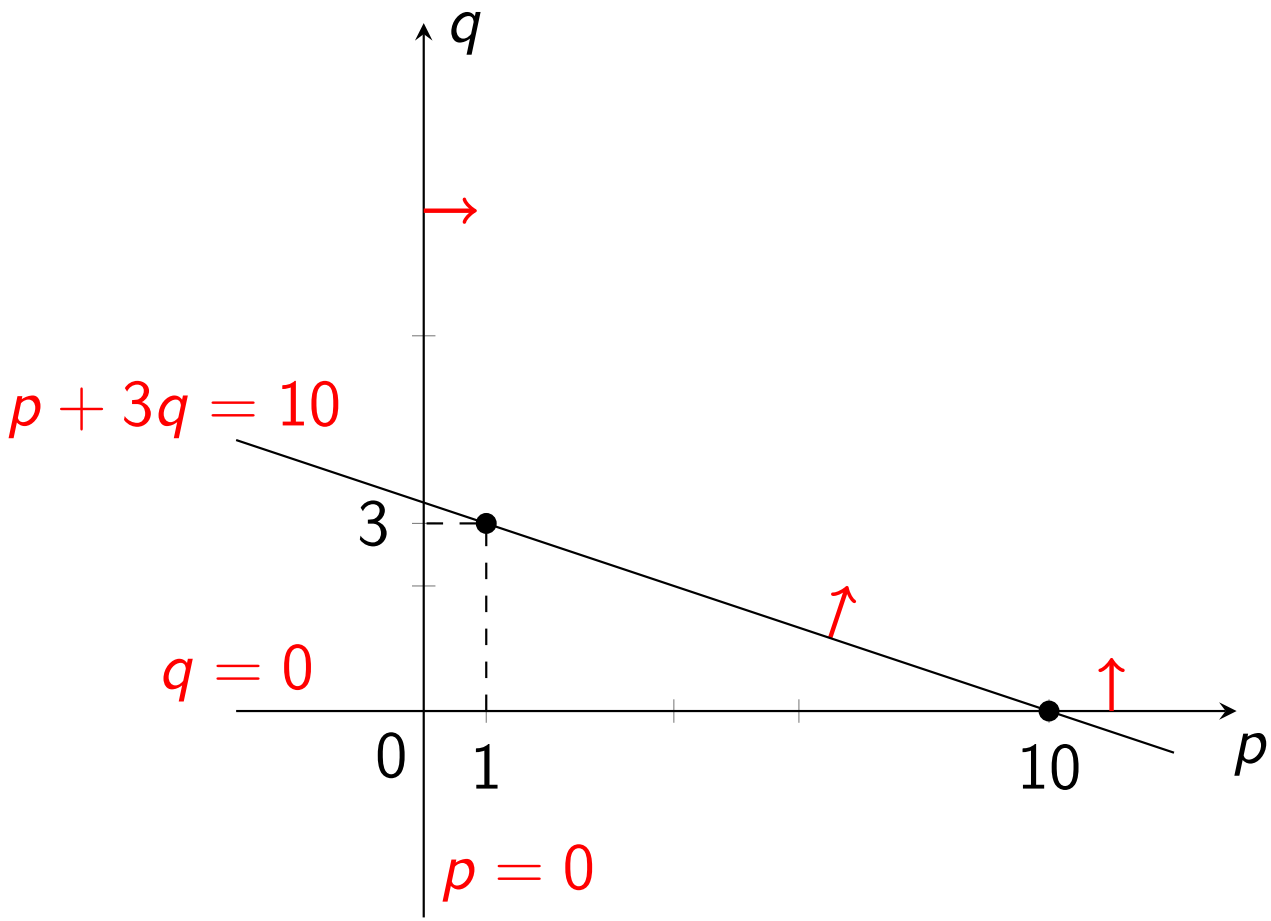
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$



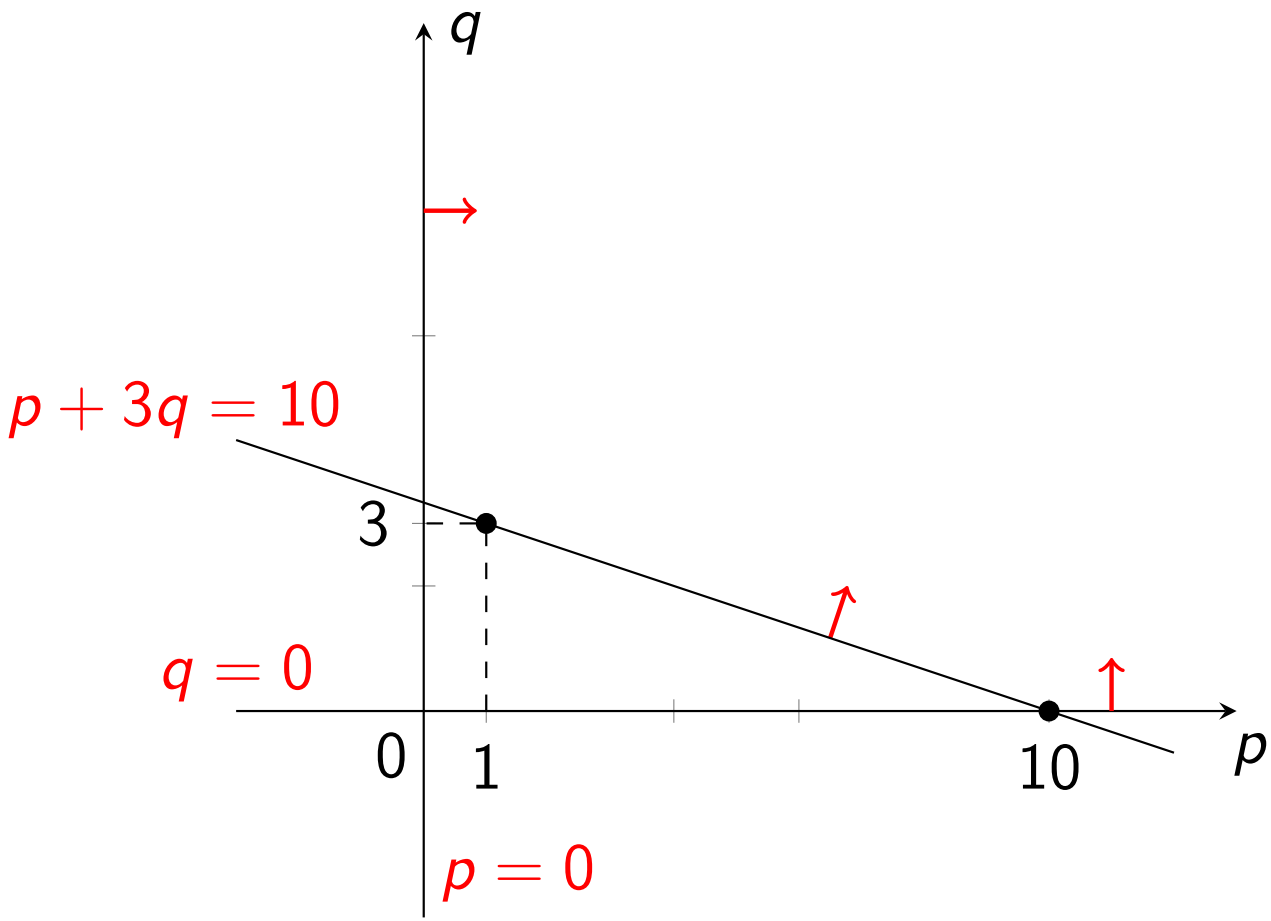
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$



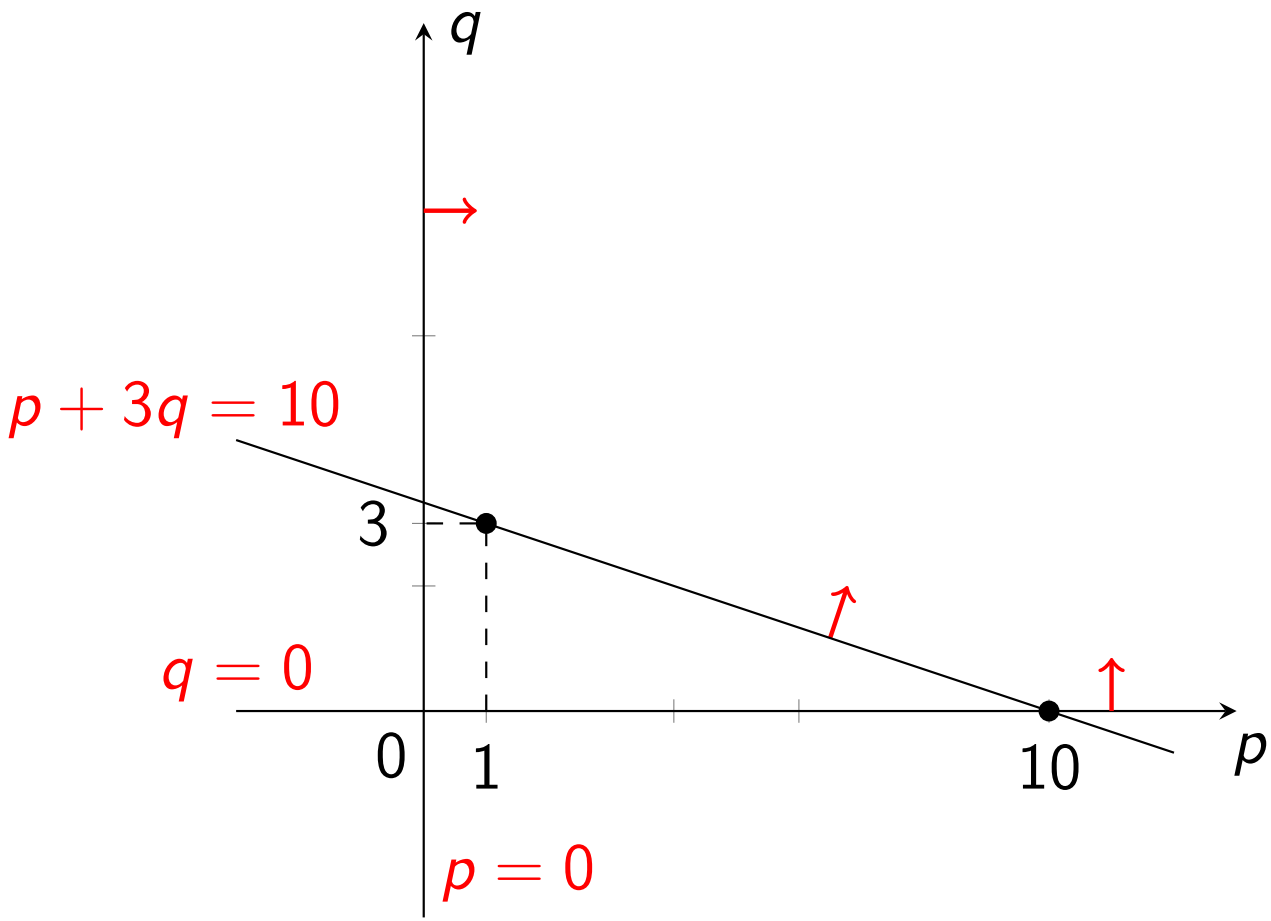
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

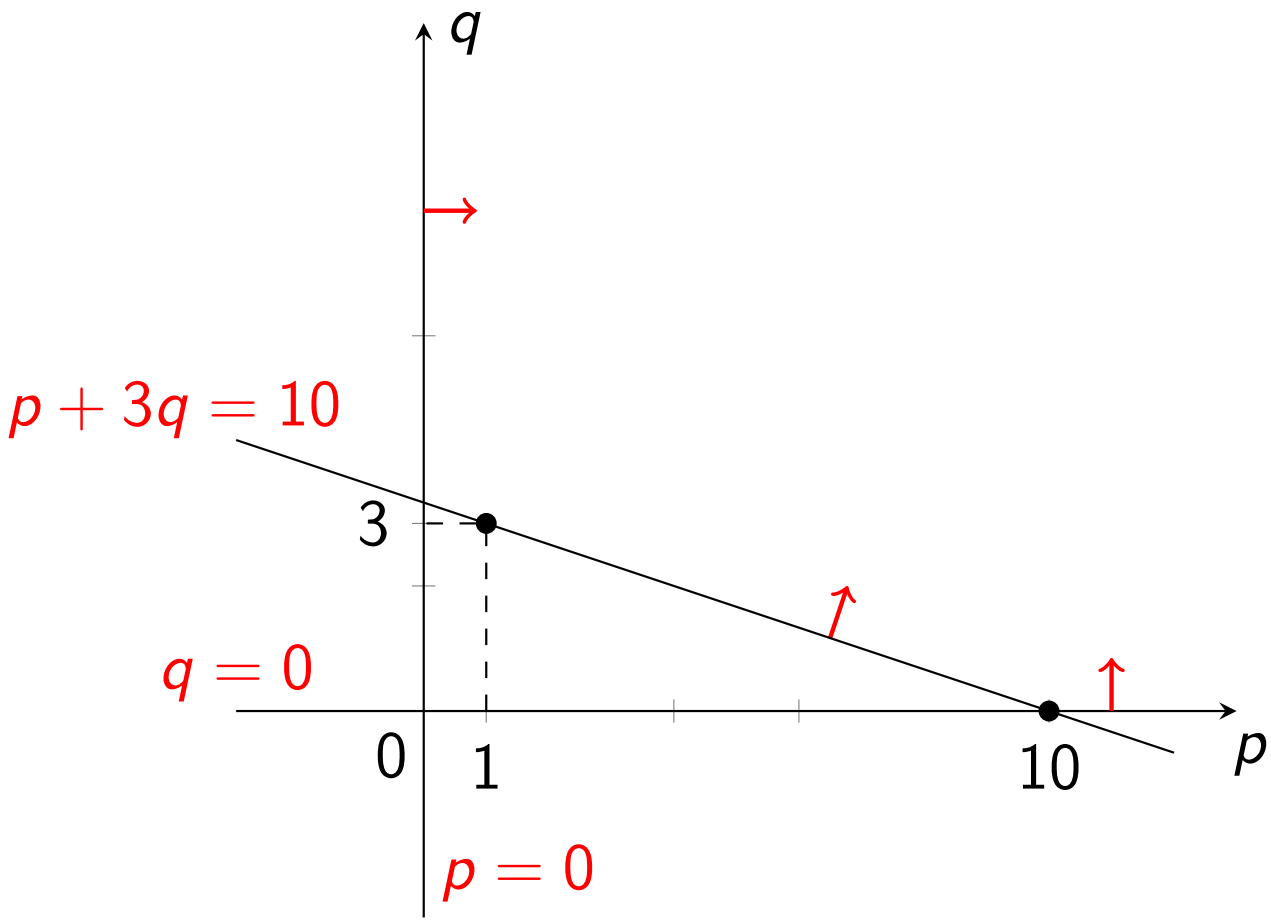
$$p + 3q = 10$$

$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

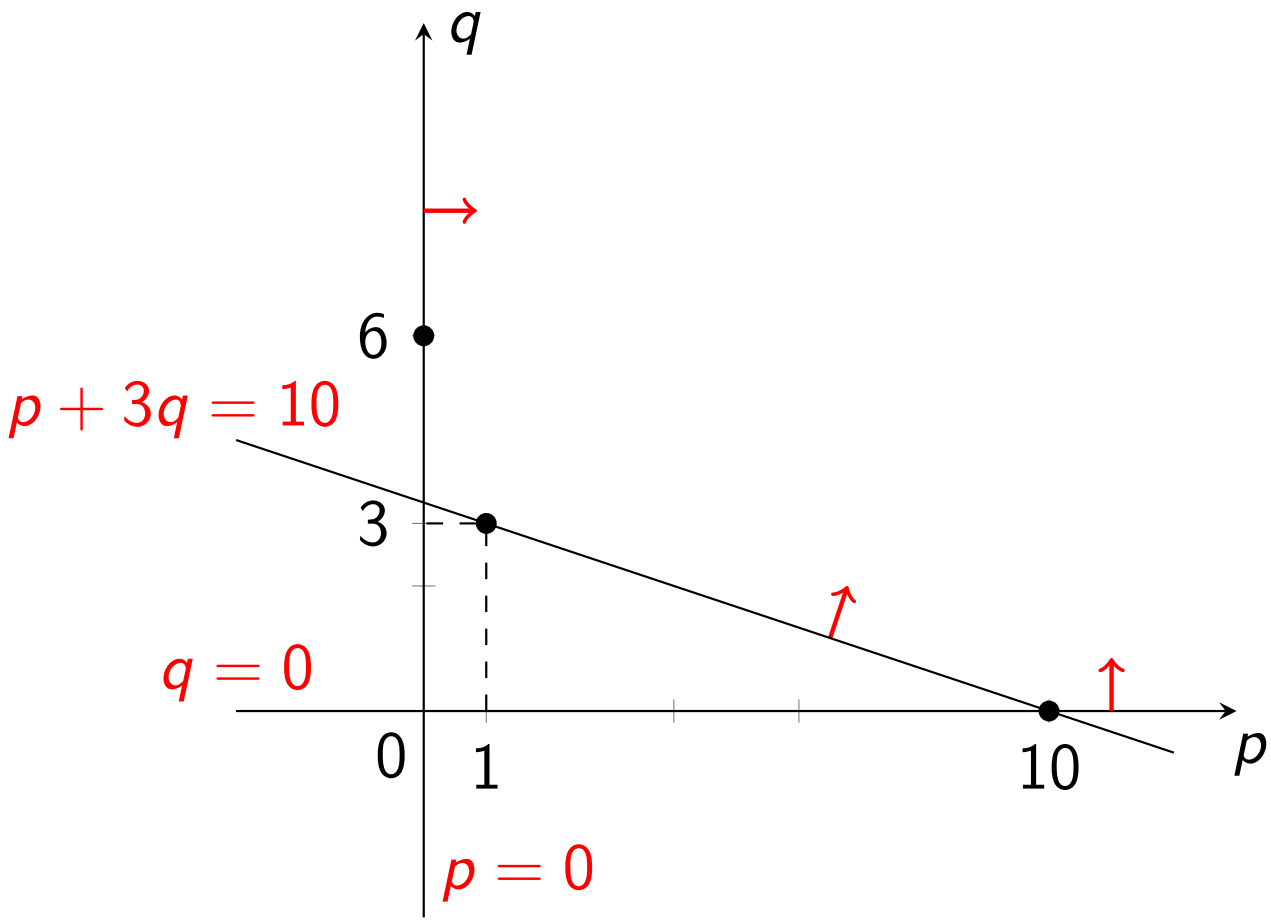
$$p + 3q = 10$$

$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

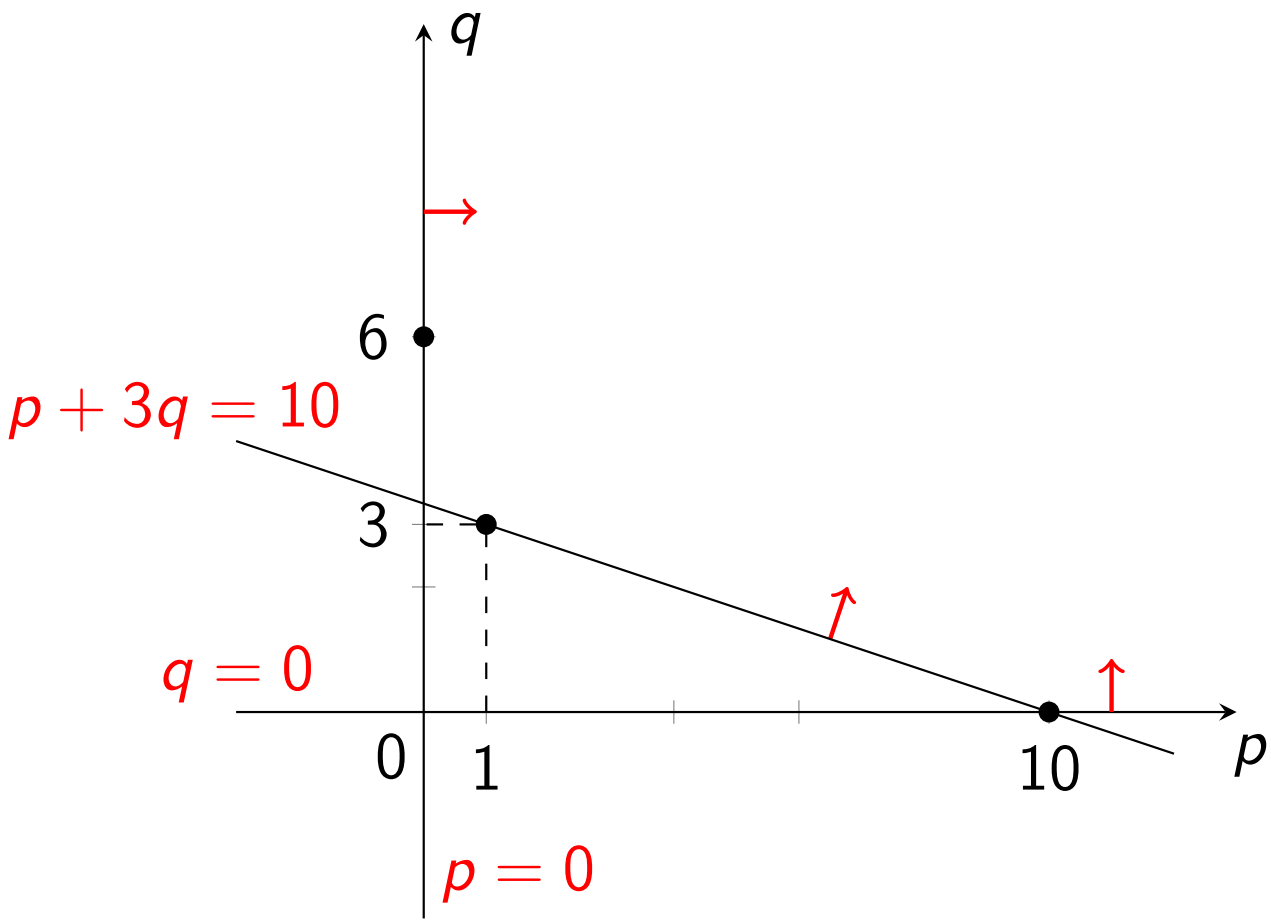
$$p + 3q = 10$$

$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

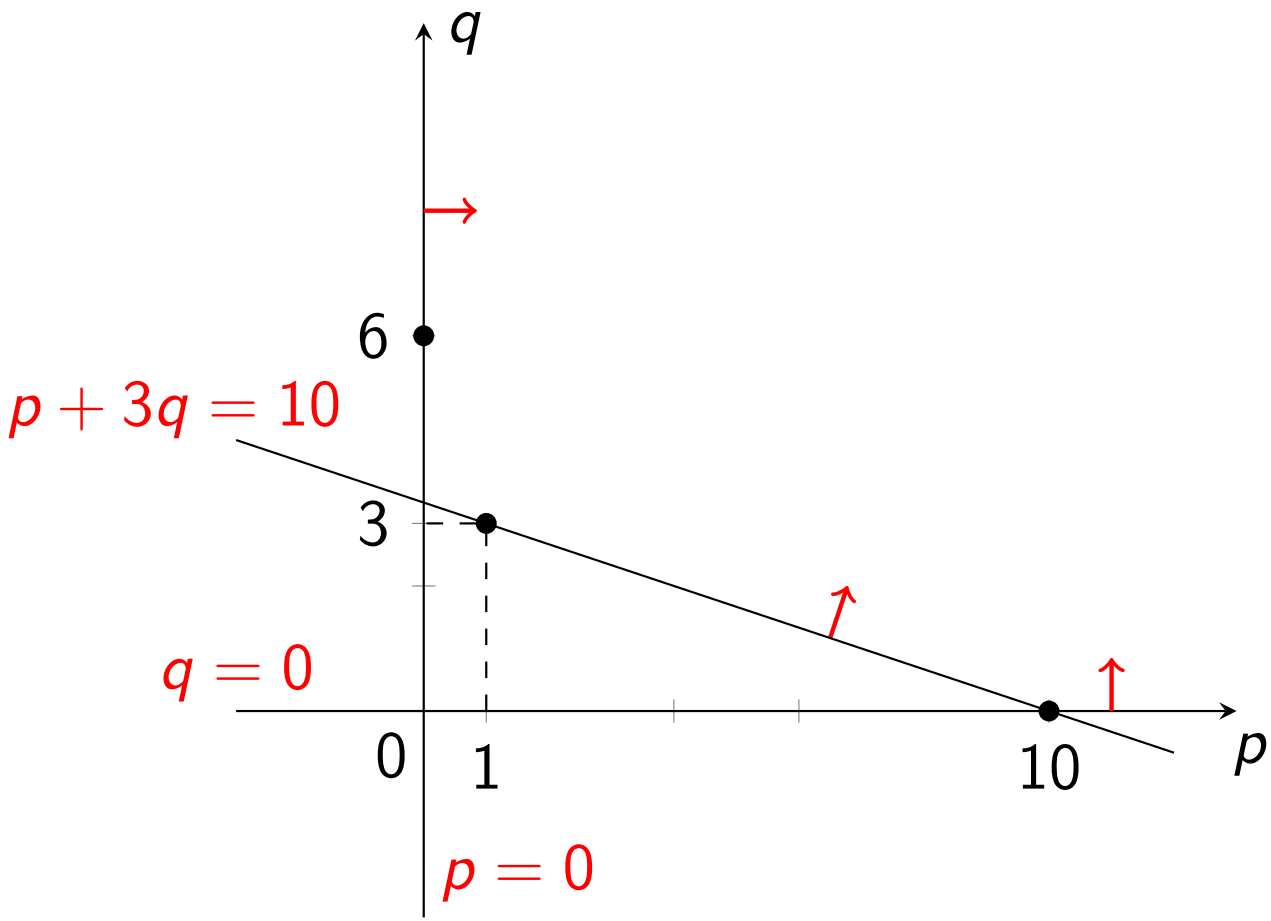
$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$

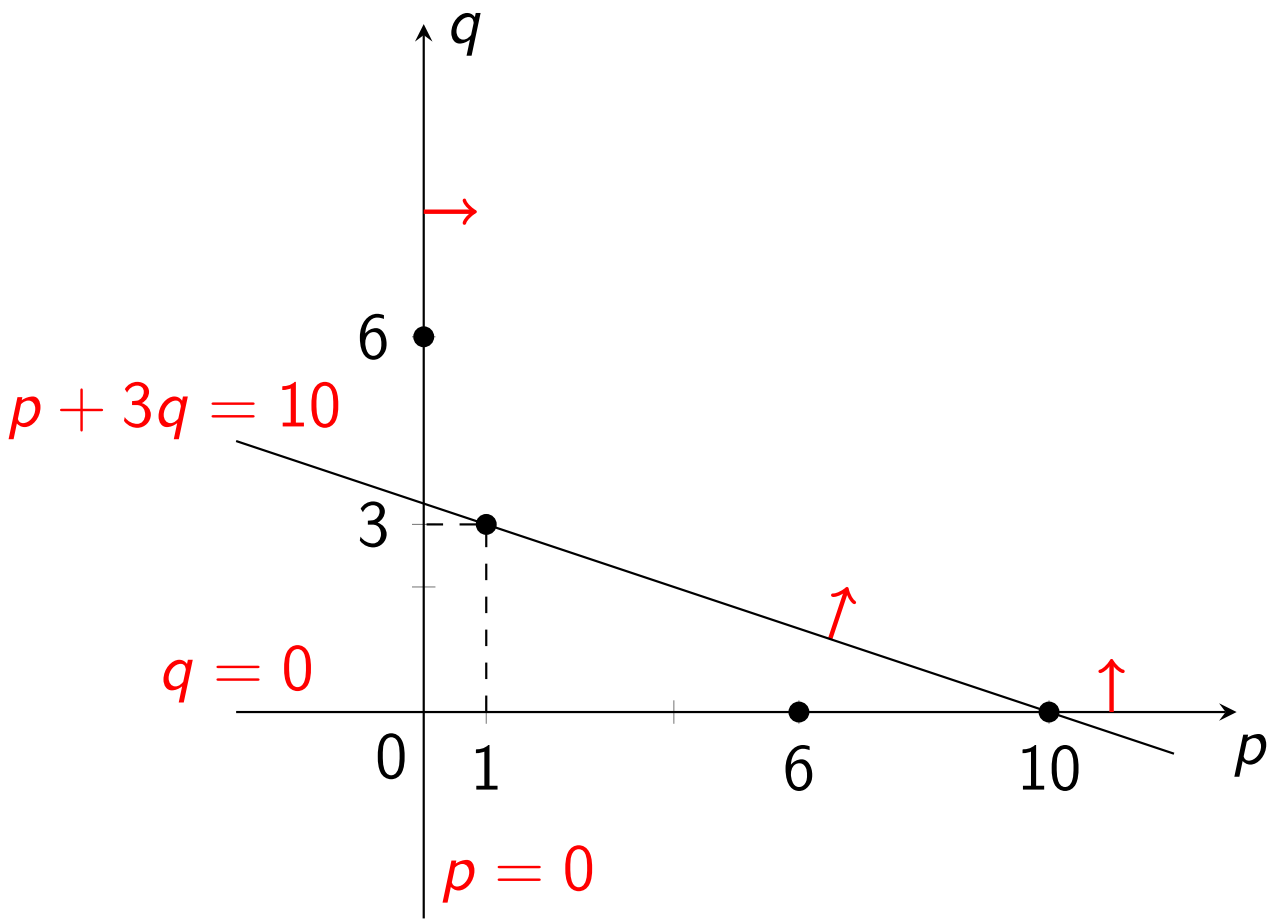
$q = 0$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

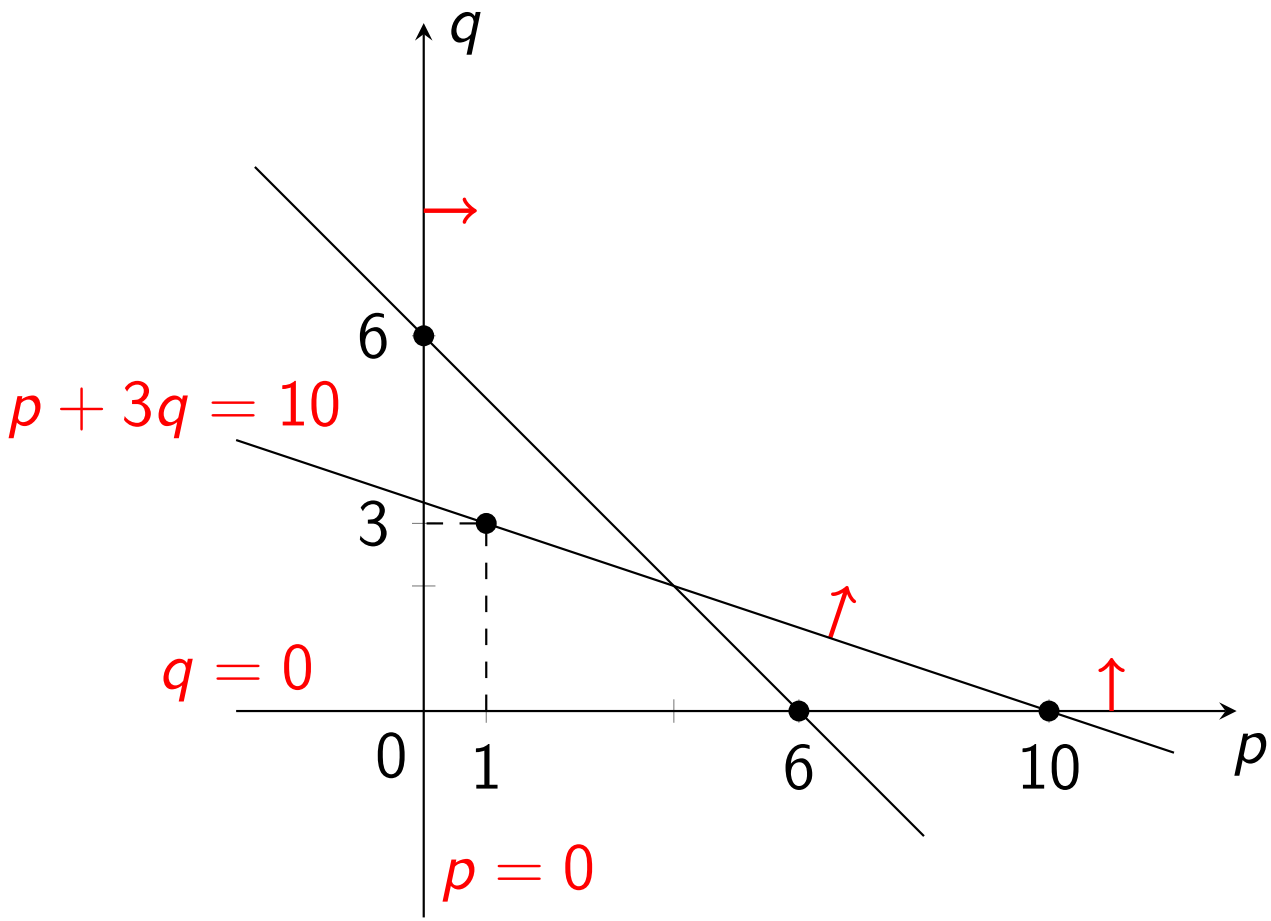
$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$



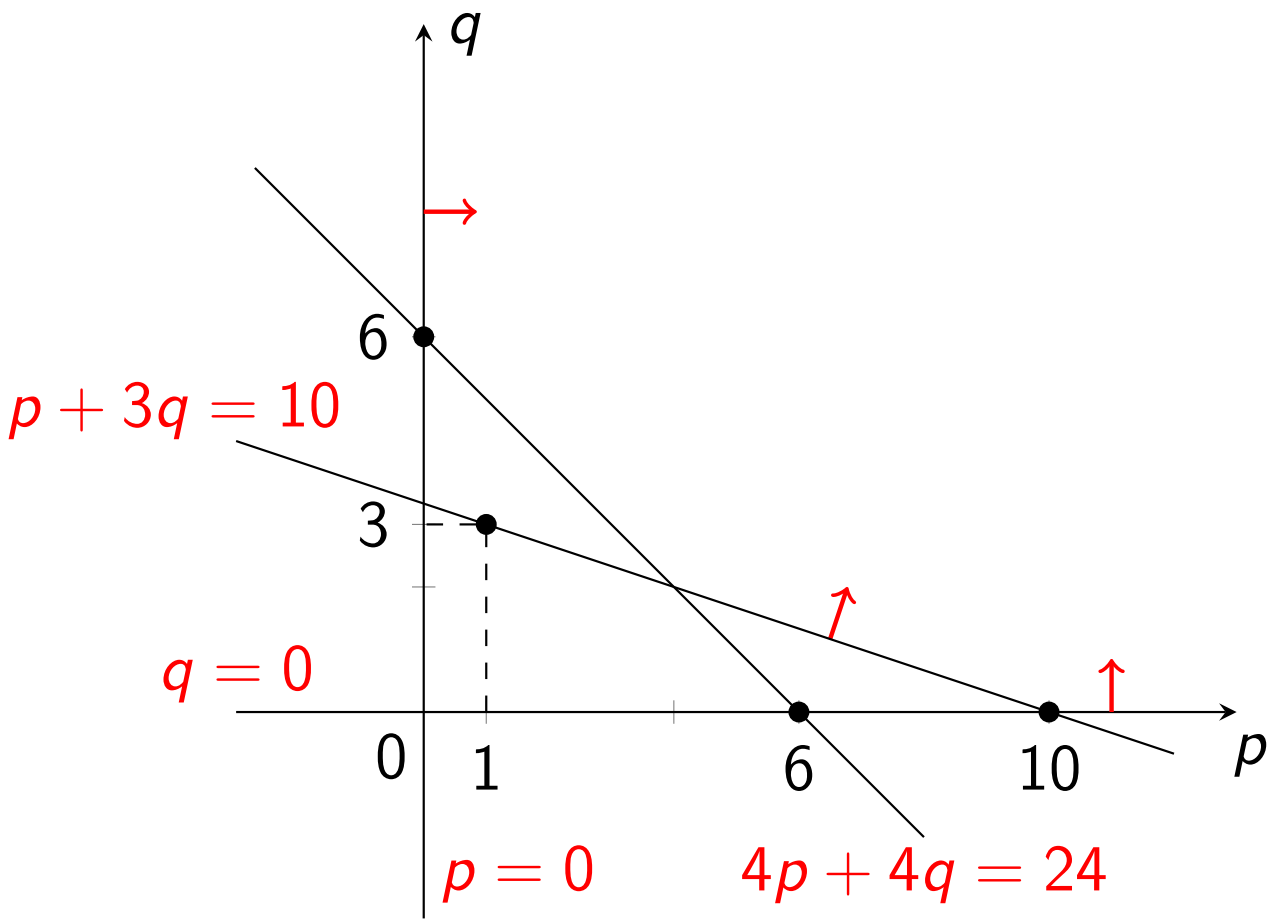
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$

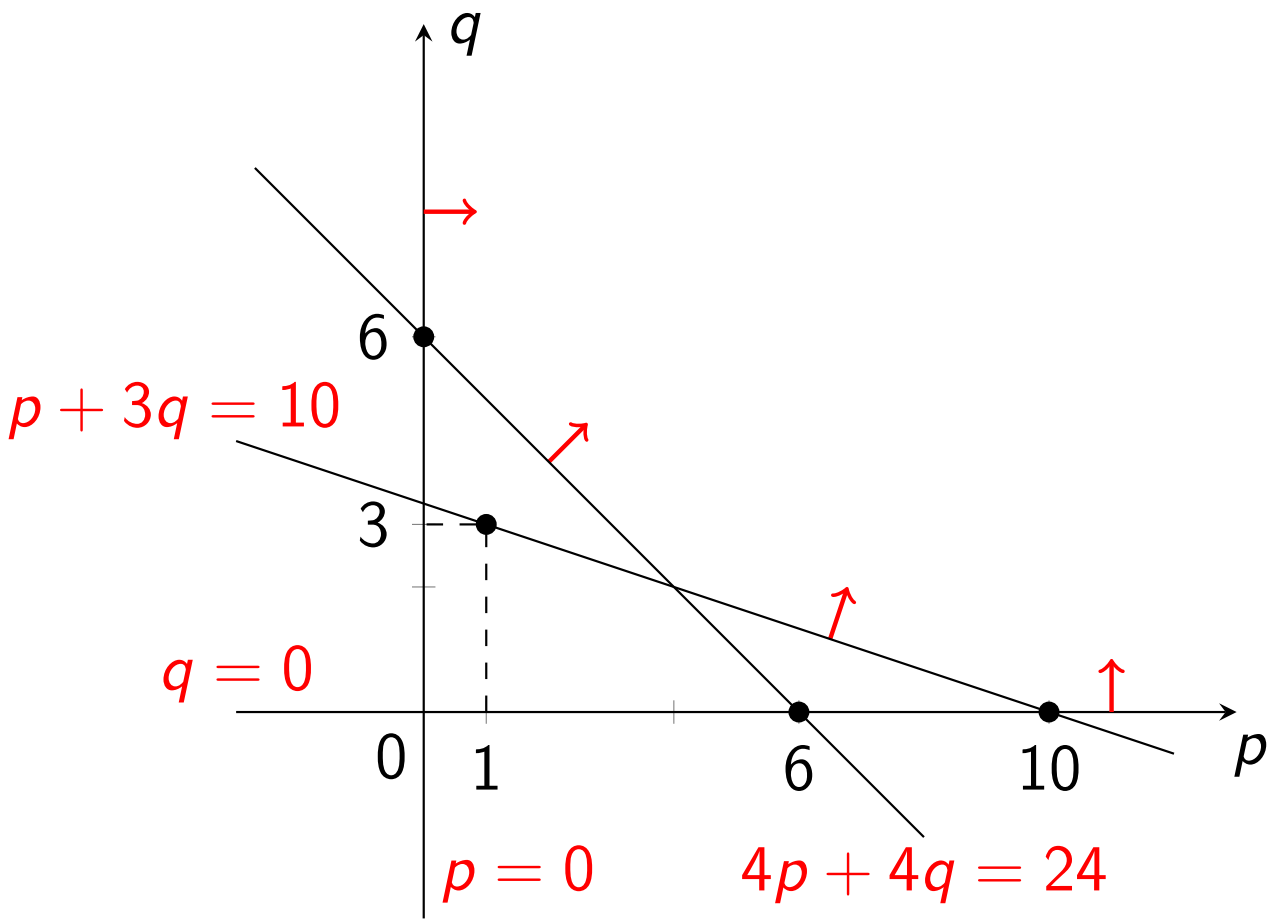
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

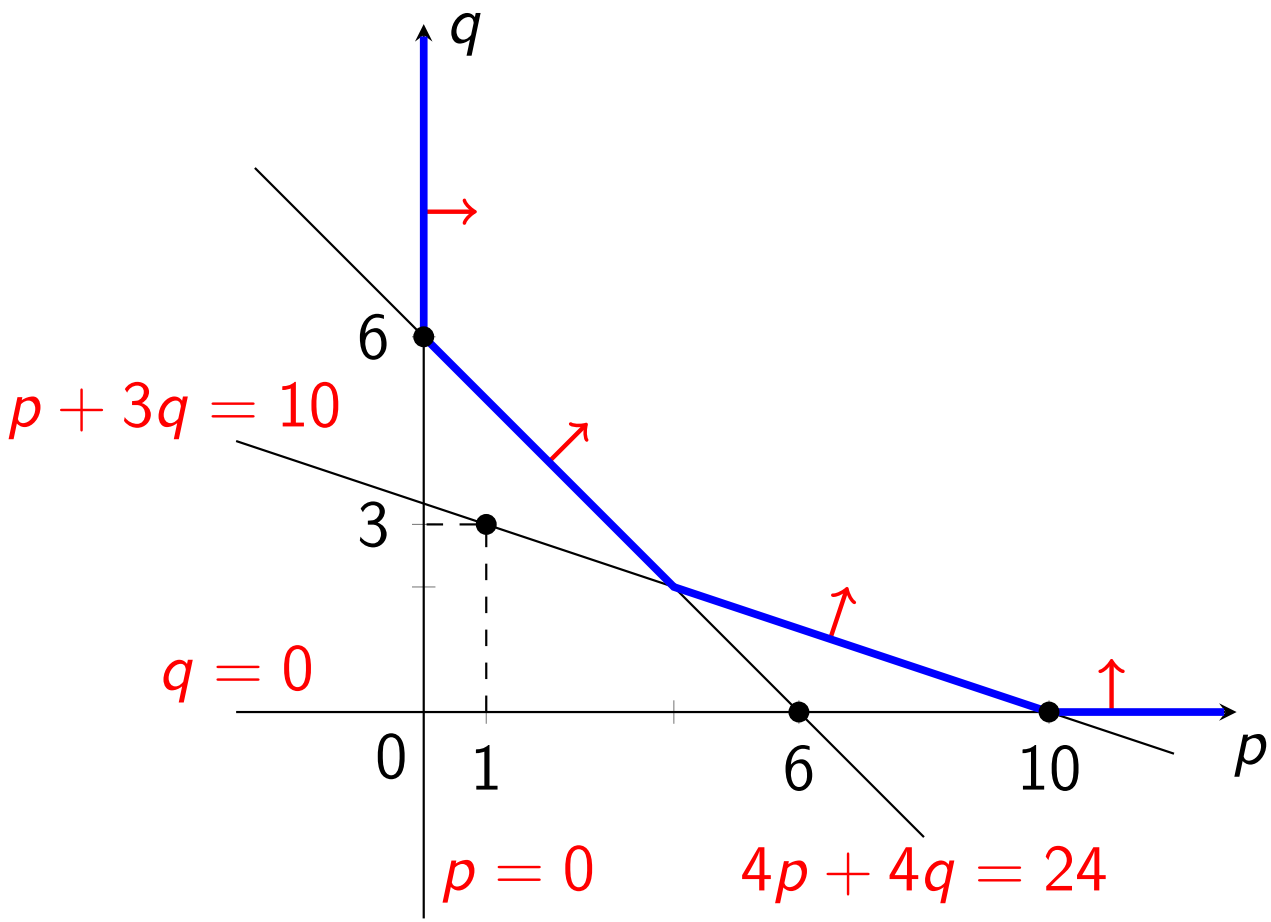
$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$

$q = 0 \rightsquigarrow p = 6$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

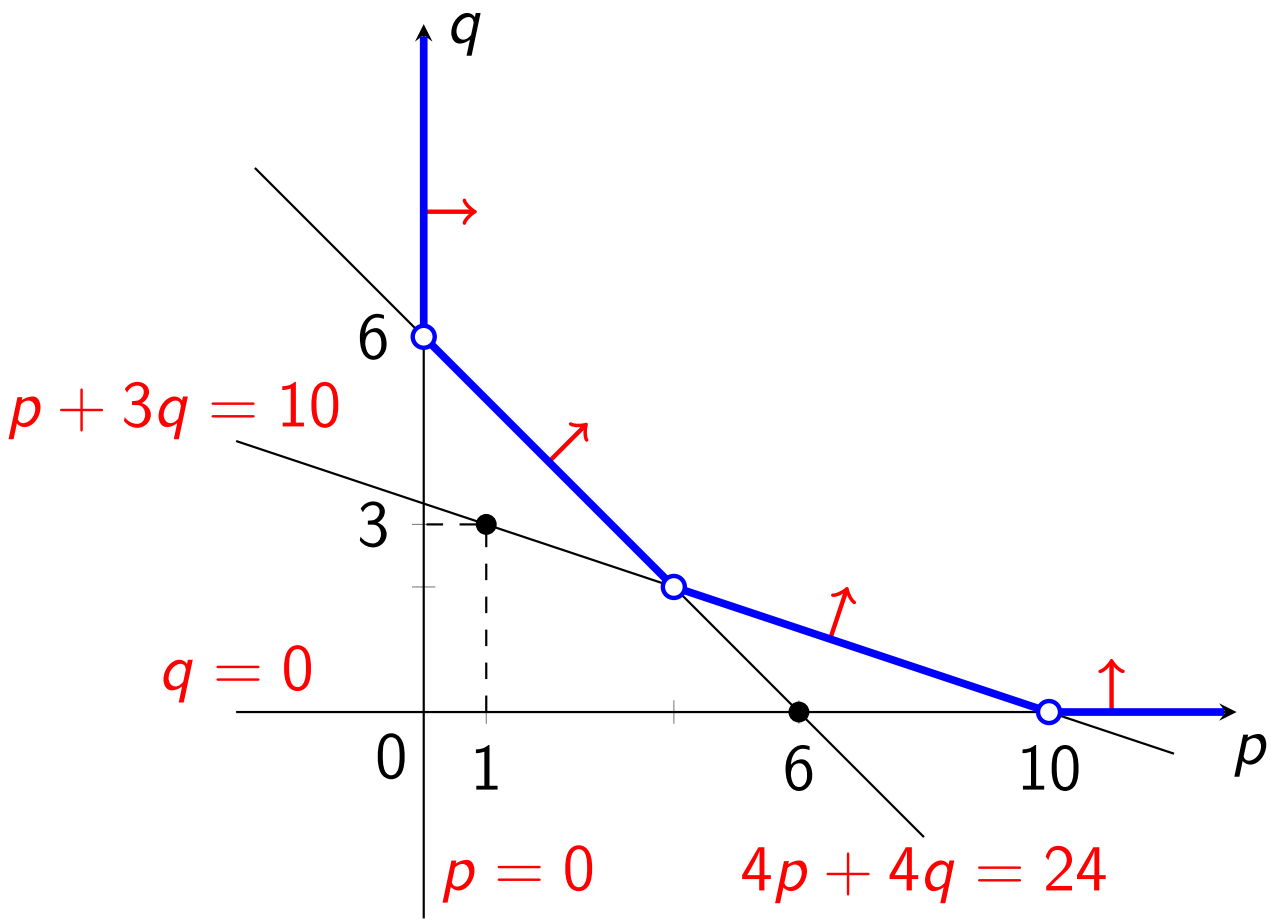
$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$

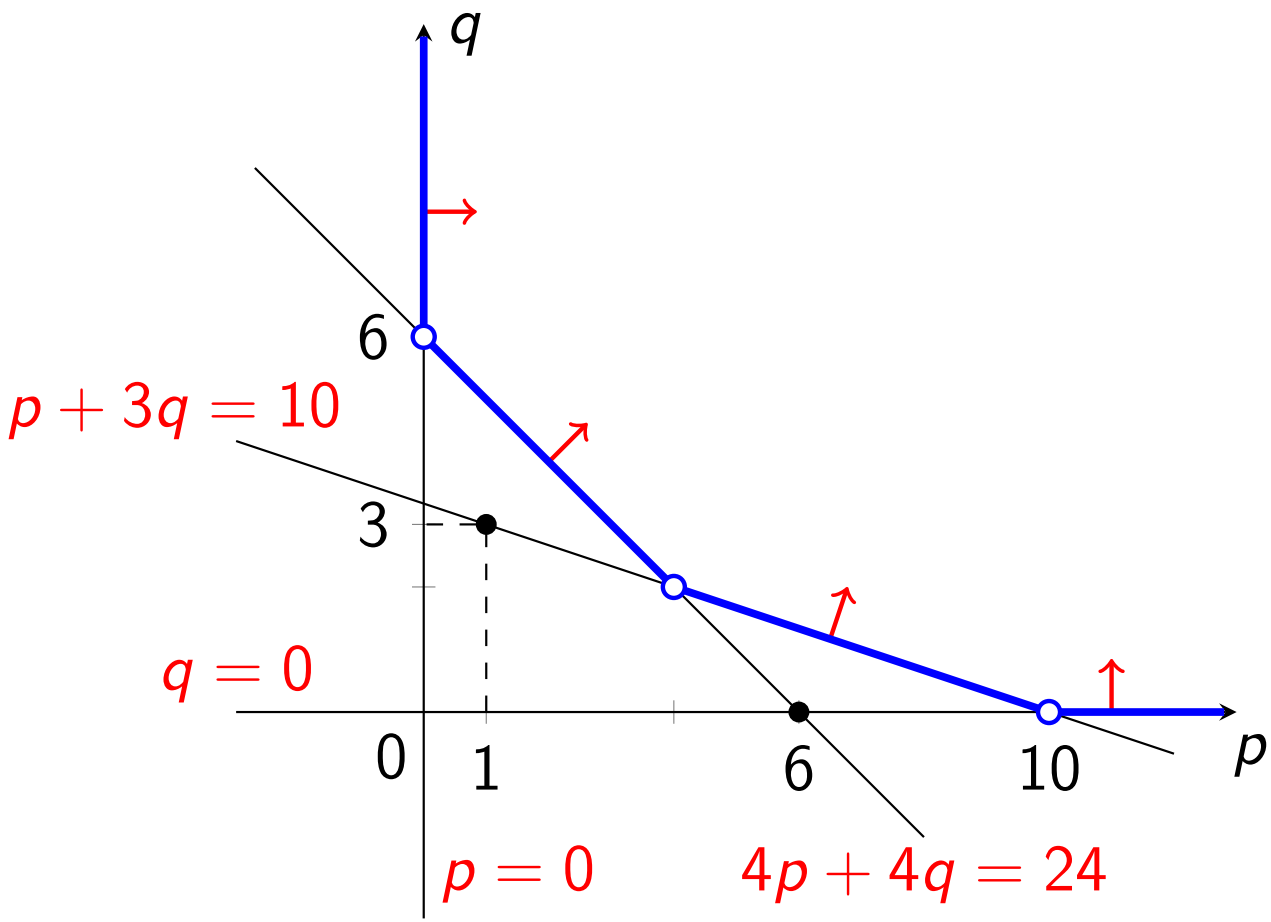
$q = 0 \rightsquigarrow p = 6$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$



$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$\begin{aligned} p &\geqslant 0 \\ q &\geqslant 0 \\ p + 3q &\geqslant 10 \\ 4p + 4q &\geqslant 24 \end{aligned}$$

$$p + 3q = 10$$

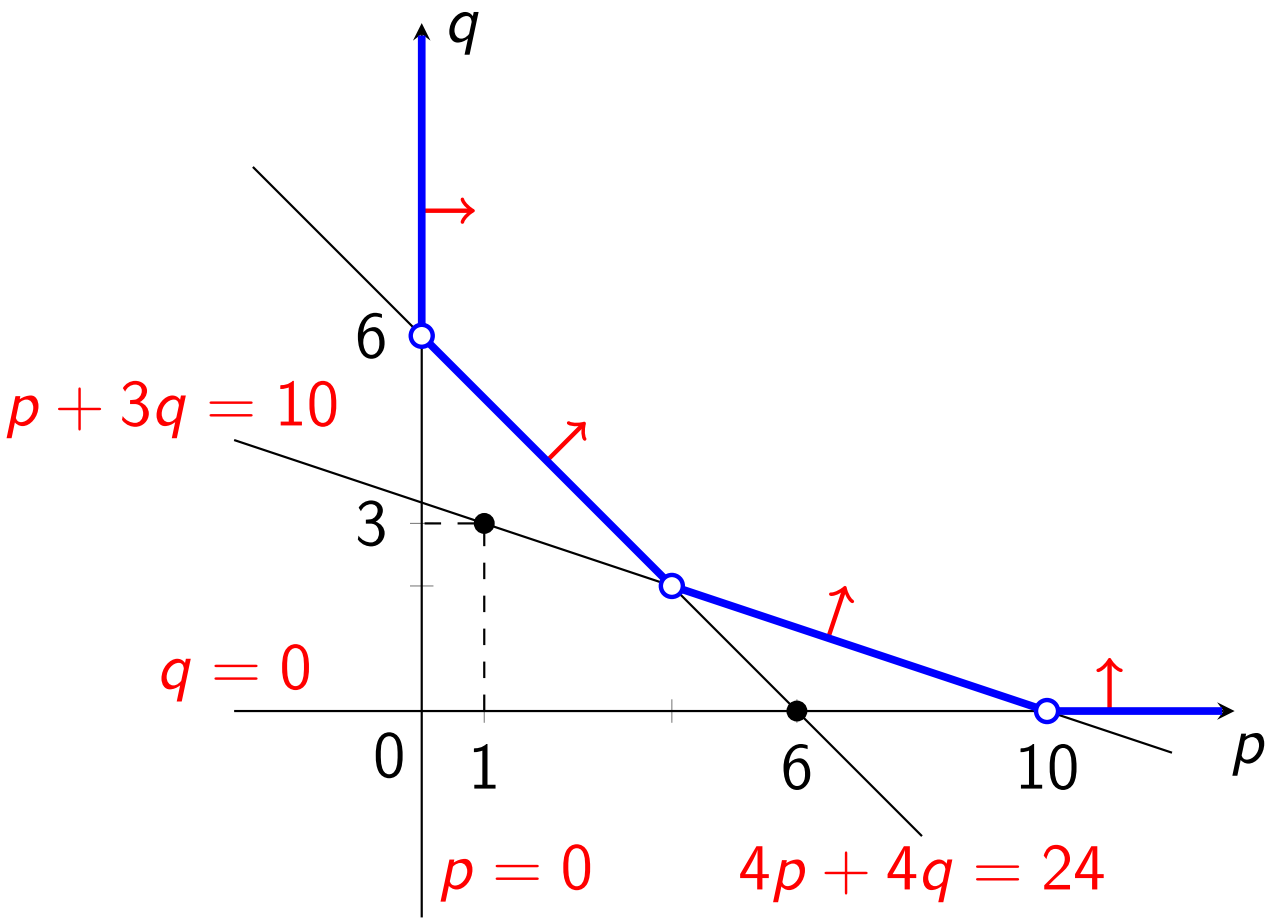
$$p = 1 \rightsquigarrow q = 3$$

$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$

$$p = 0 \rightsquigarrow q = 6$$

$$q = 0 \rightsquigarrow p = 6$$



$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix}$$

$$\begin{aligned} p &\geqslant 0 \\ q &\geqslant 0 \\ p + 3q &\geqslant 10 \\ 4p + 4q &\geqslant 24 \end{aligned}$$

$$p + 3q = 10$$

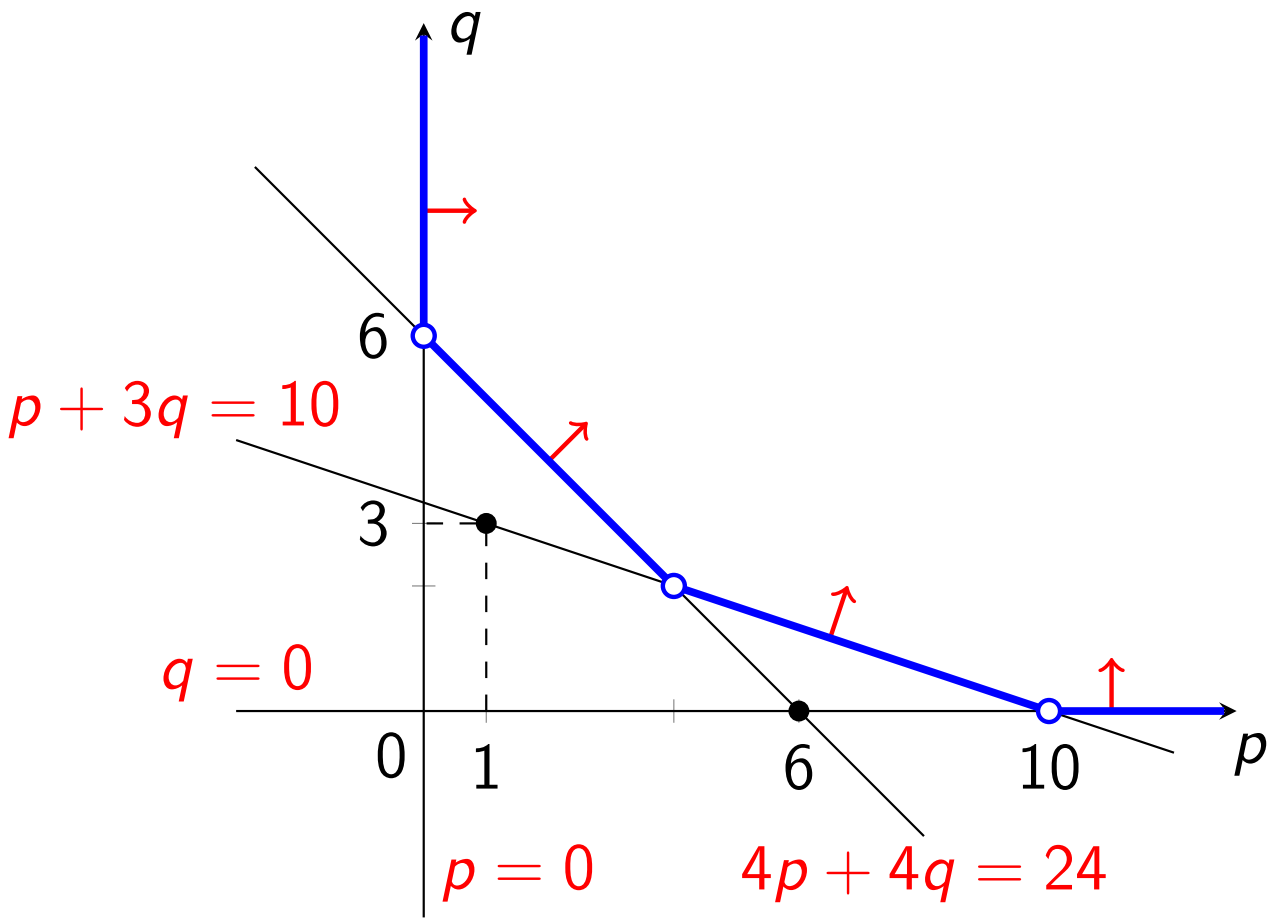
$$p = 1 \rightsquigarrow q = 3$$

$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$

$$p = 0 \rightsquigarrow q = 6$$

$$q = 0 \rightsquigarrow p = 6$$



$$\begin{aligned} p &\geqslant 0 \\ q &\geqslant 0 \\ p + 3q &\geqslant 10 \\ 4p + 4q &\geqslant 24 \end{aligned}$$

$$p + 3q = 10$$

$$p = 1 \rightsquigarrow q = 3$$

$$q = 0 \rightsquigarrow p = 10$$

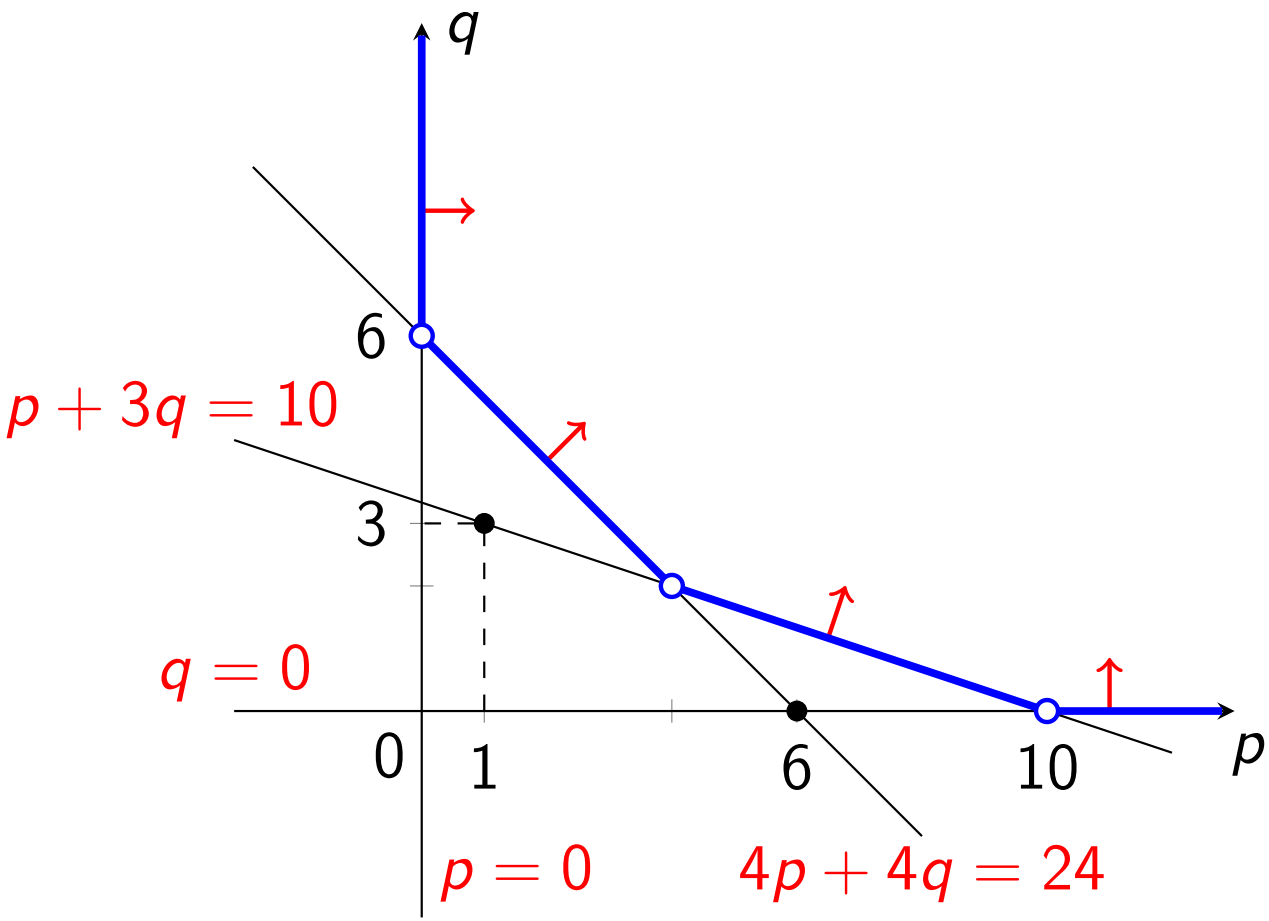
$$4p + 4q = 24$$

$$p = 0 \rightsquigarrow q = 6$$

$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$

$p = 1 \rightsquigarrow q = 3$

$q = 0 \rightsquigarrow p = 10$

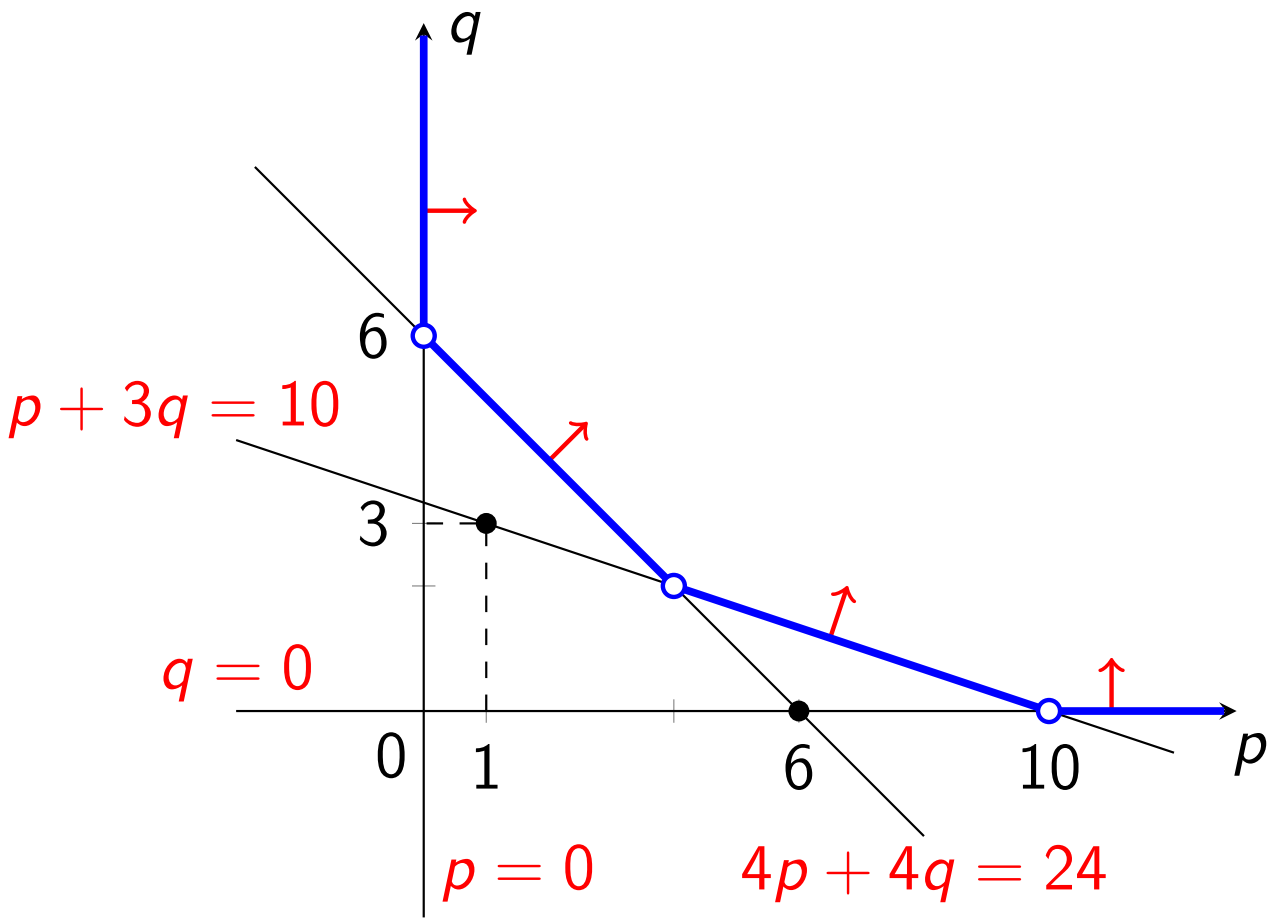
$$4p + 4q = 24$$

$p = 0 \rightsquigarrow q = 6$

$q = 0 \rightsquigarrow p = 6$

$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix}$$



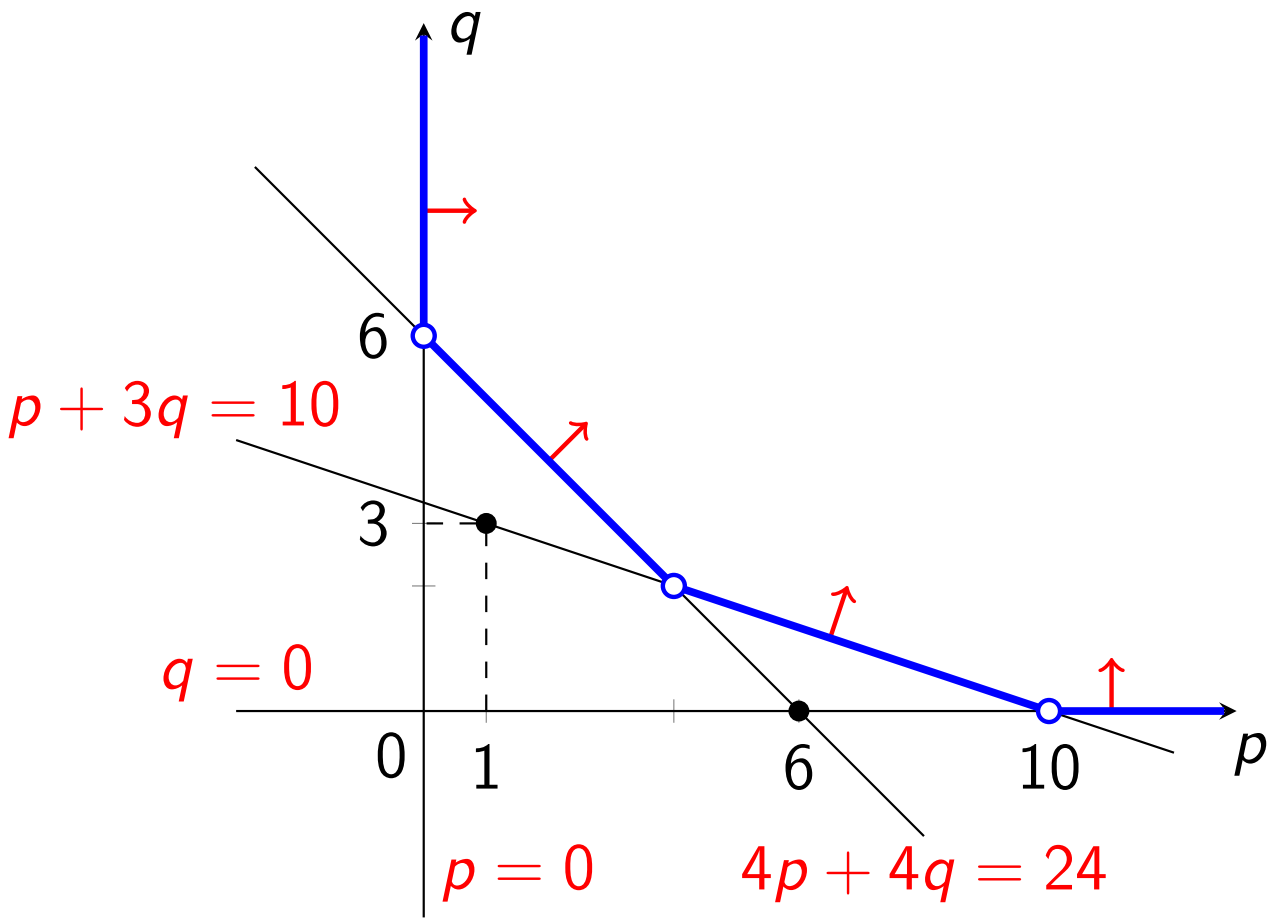
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{array}{r} p + 3q = 10 \\ 4p + 4q = 24 \end{array}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32$$



$$\begin{aligned} p &\geqslant 0 \\ q &\geqslant 0 \\ p + 3q &\geqslant 10 \\ 4p + 4q &\geqslant 24 \end{aligned}$$

$$p + 3q = 10$$

$$p = 1 \rightsquigarrow q = 3$$

$$q = 0 \rightsquigarrow p = 10$$

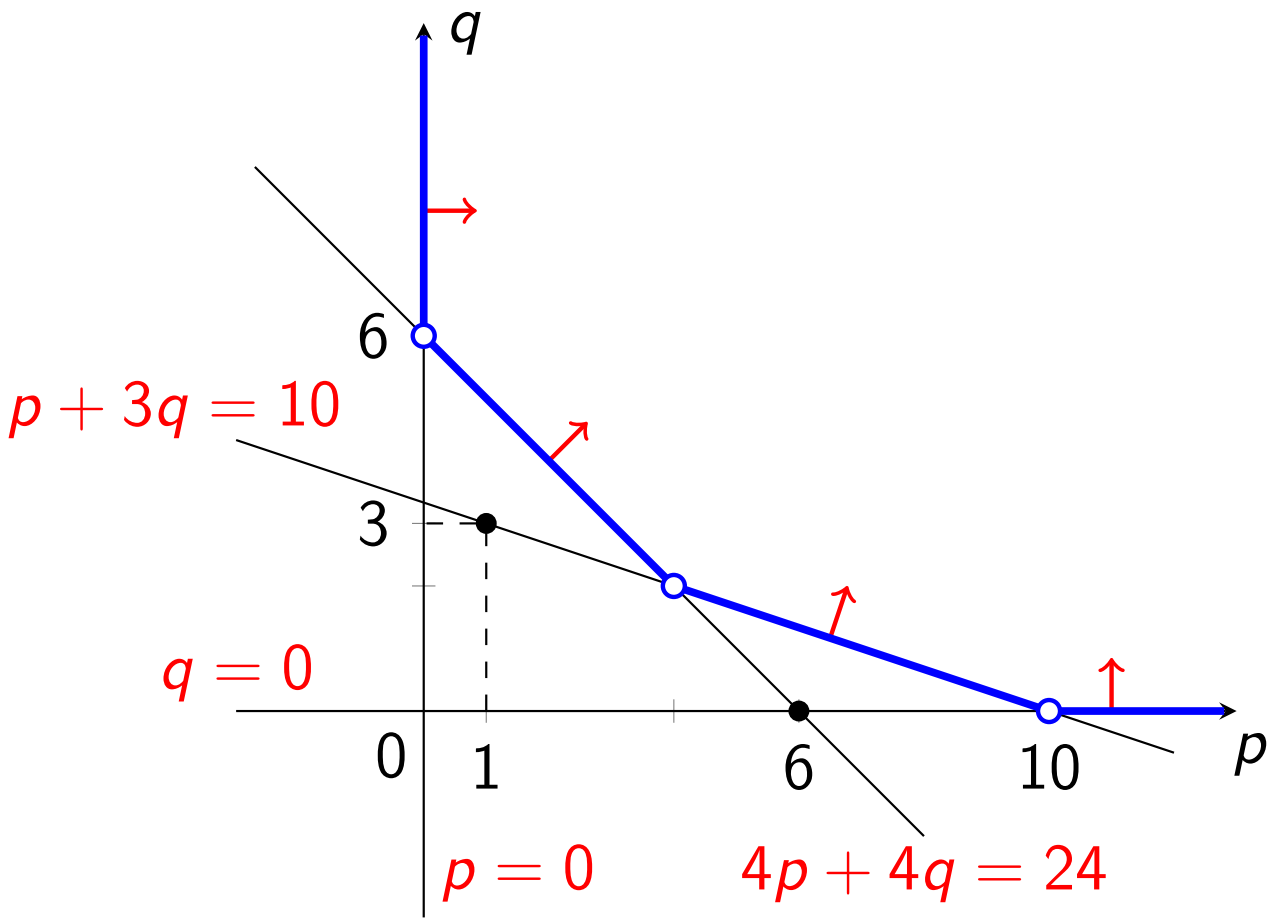
$$4p + 4q = 24$$

$$p = 0 \rightsquigarrow q = 6$$

$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix}$$



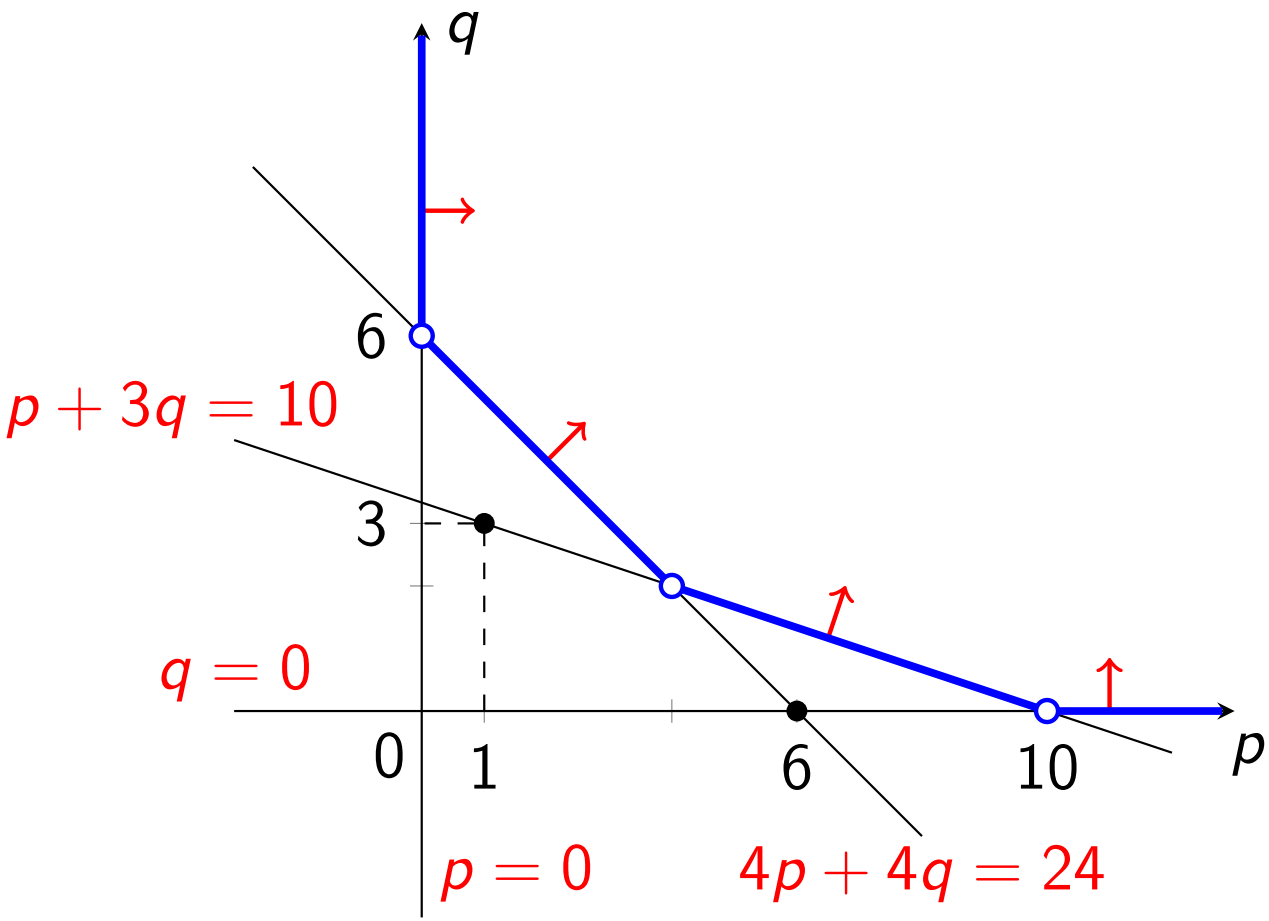
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{aligned} p + 3q &= 10 \\ 4p + 4q &= 24 \end{aligned}\right\}$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix} = -16$$



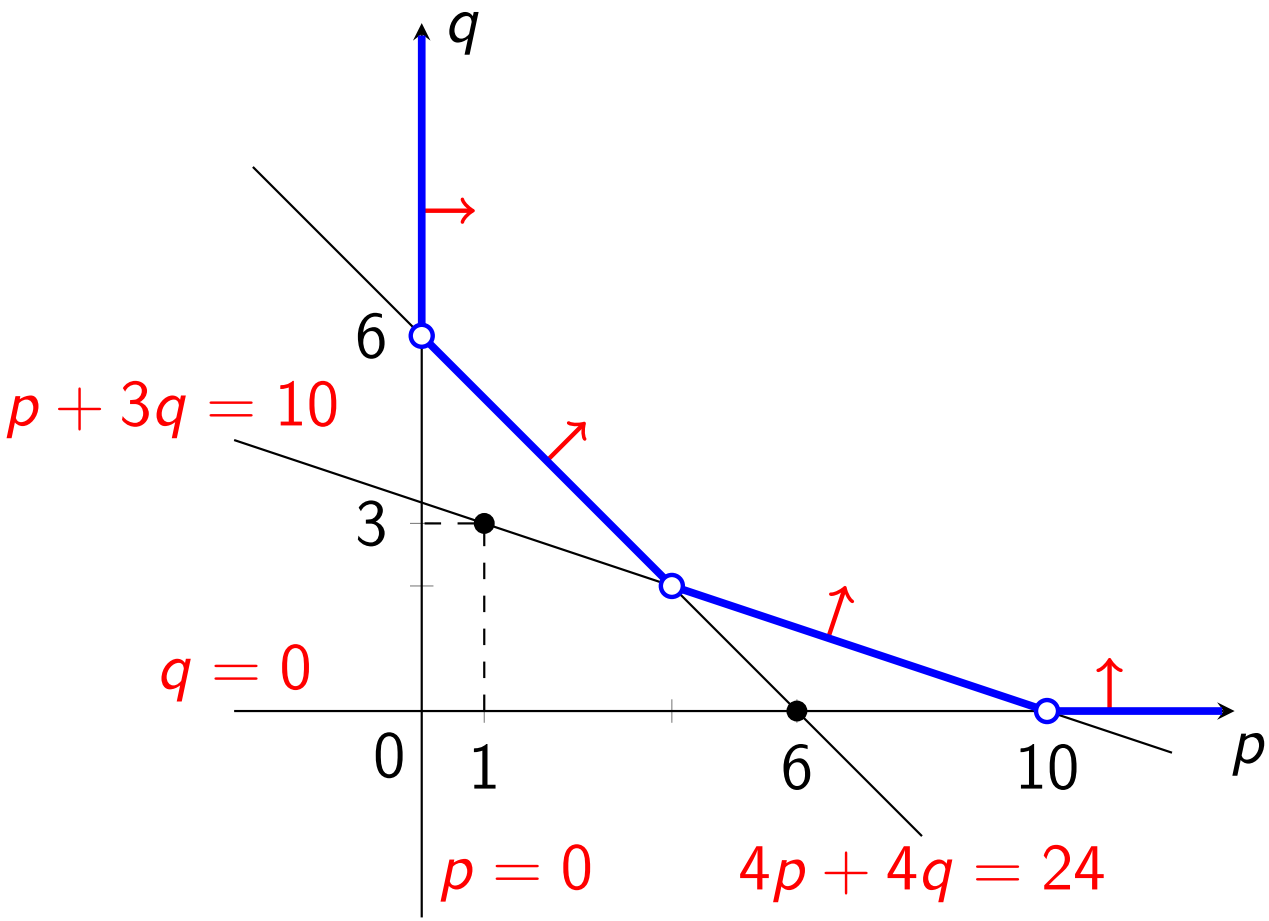
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{matrix} p + 3q = 10 \\ 4p + 4q = 24 \end{matrix}\right\} \quad p = \frac{-32}{-8} = 4$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix} = -16$$



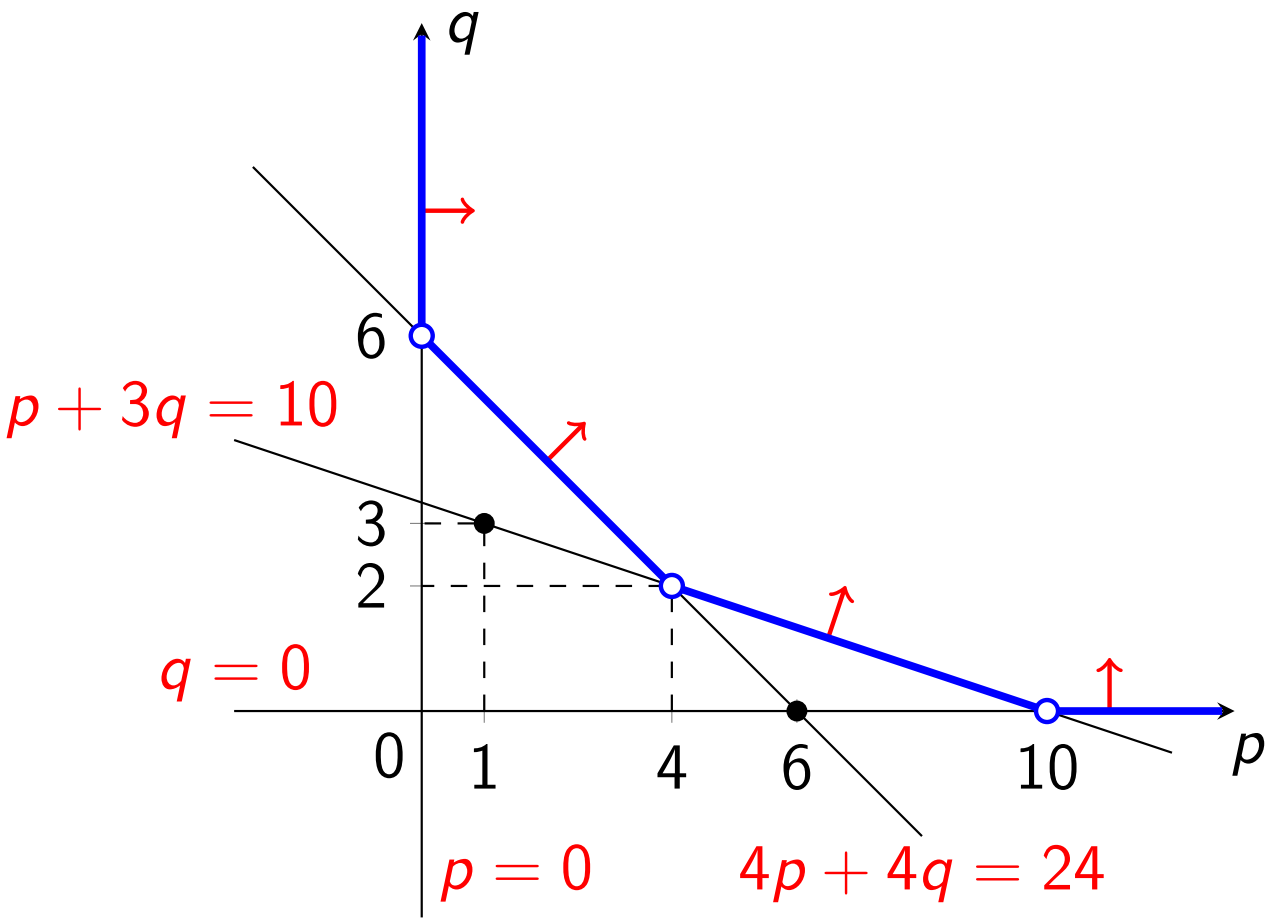
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{matrix} p + 3q = 10 \\ 4p + 4q = 24 \end{matrix}\right\} \quad p = \frac{-32}{-8} = 4 \qquad q = \frac{-16}{-8} = 2$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix} = -16$$



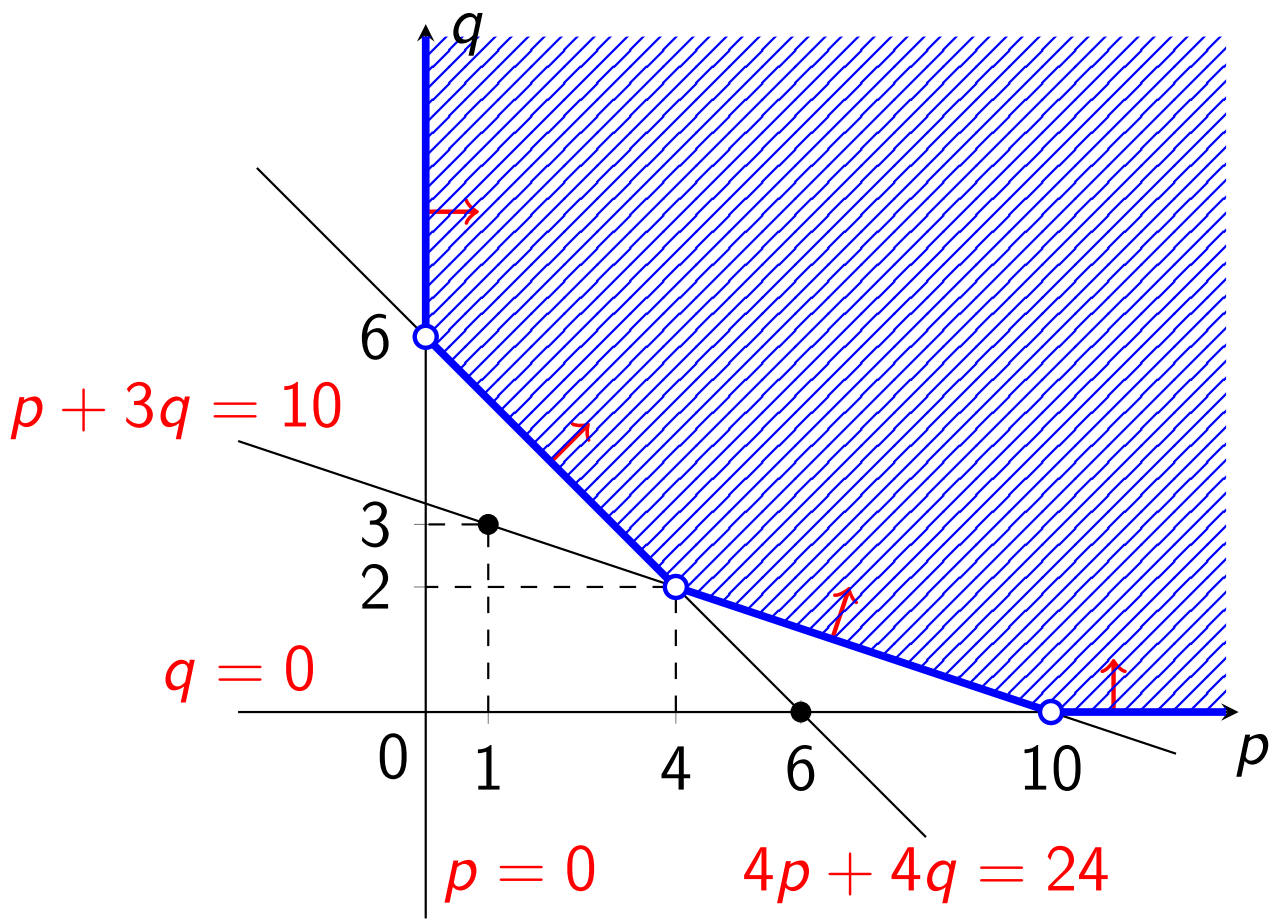
$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
$$q = 0 \rightsquigarrow p = 10$$

$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{matrix} p + 3q = 10 \\ 4p + 4q = 24 \end{matrix}\right\} \quad p = \frac{-32}{-8} = 4 \qquad q = \frac{-16}{-8} = 2$$

$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix} = -16$$



$$p \geqslant 0$$
$$q \geqslant 0$$
$$p + 3q \geqslant 10$$
$$4p + 4q \geqslant 24$$

$$p + 3q = 10$$
$$p = 1 \rightsquigarrow q = 3$$
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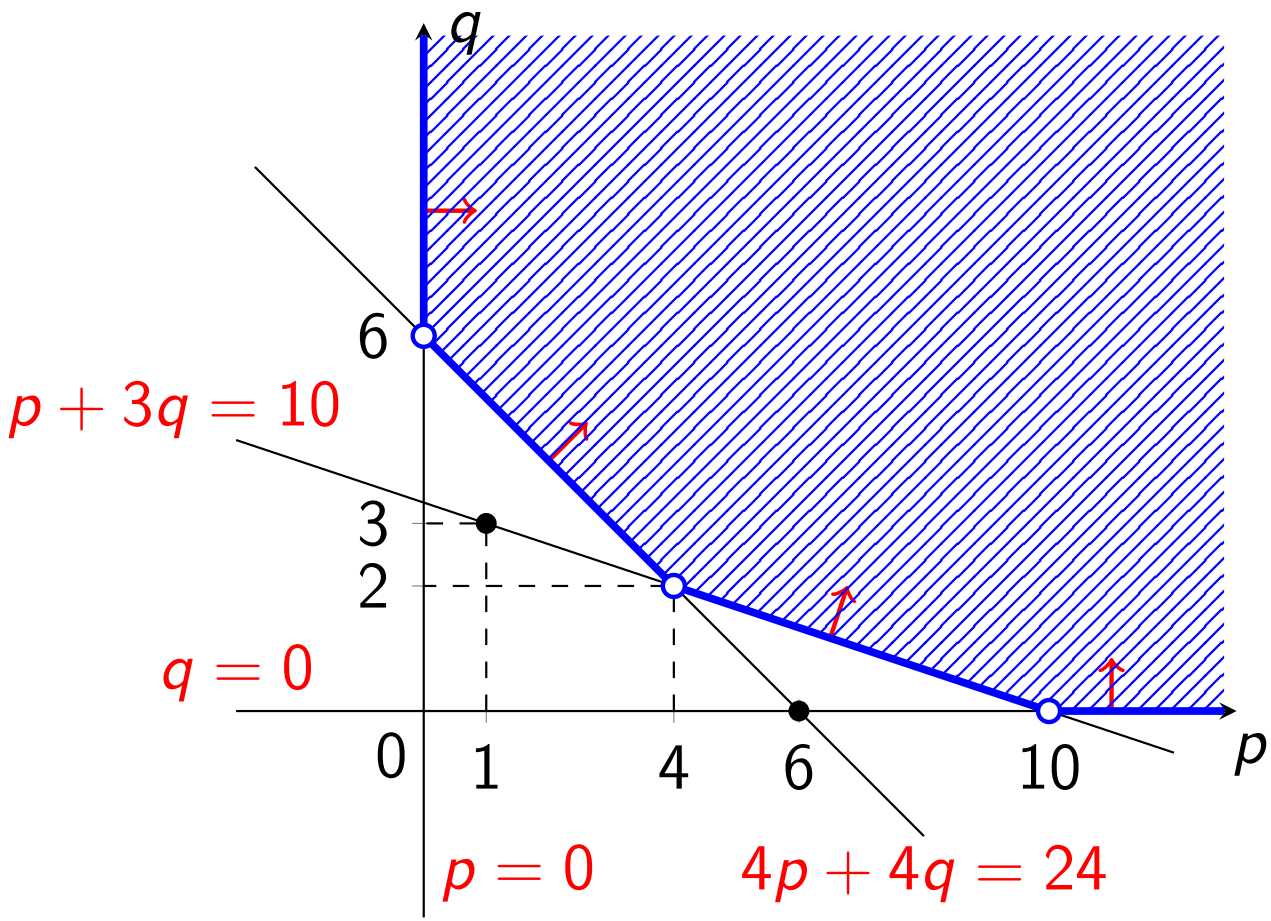
$$4p + 4q = 24$$
$$p = 0 \rightsquigarrow q = 6$$
$$q = 0 \rightsquigarrow p = 6$$

$$\left.\begin{matrix} p + 3q = 10 \\ 4p + 4q = 24 \end{matrix}\right\} \quad p = \frac{-32}{-8} = 4 \qquad q = \frac{-16}{-8} = 2$$

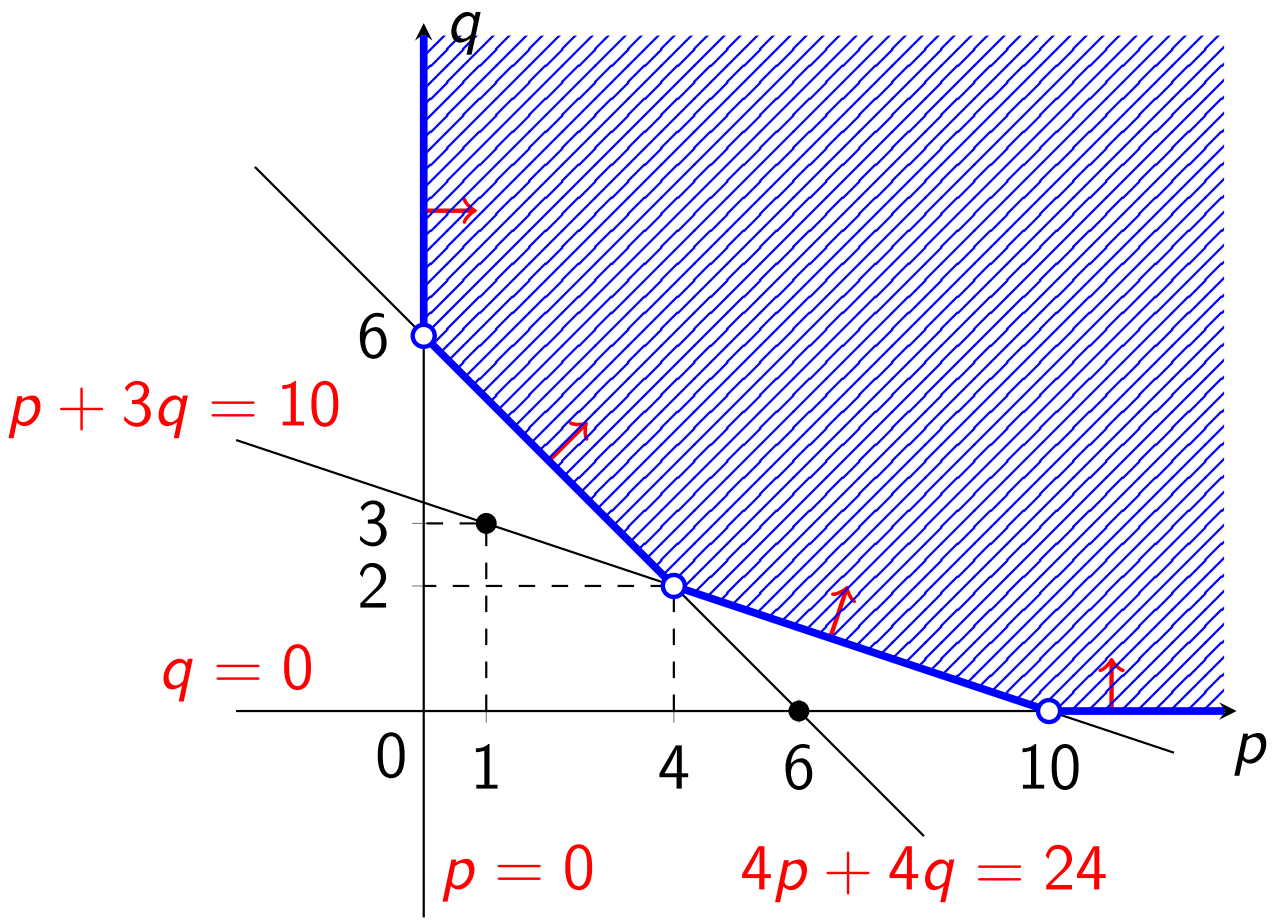
$$D = \begin{vmatrix} 1 & 3 \\ 4 & 4 \end{vmatrix} = -8 \qquad D_1 = \begin{vmatrix} 10 & 3 \\ 24 & 4 \end{vmatrix} = -32 \qquad D_2 = \begin{vmatrix} 1 & 10 \\ 4 & 24 \end{vmatrix} = -16$$

$T = 10p + 12q$

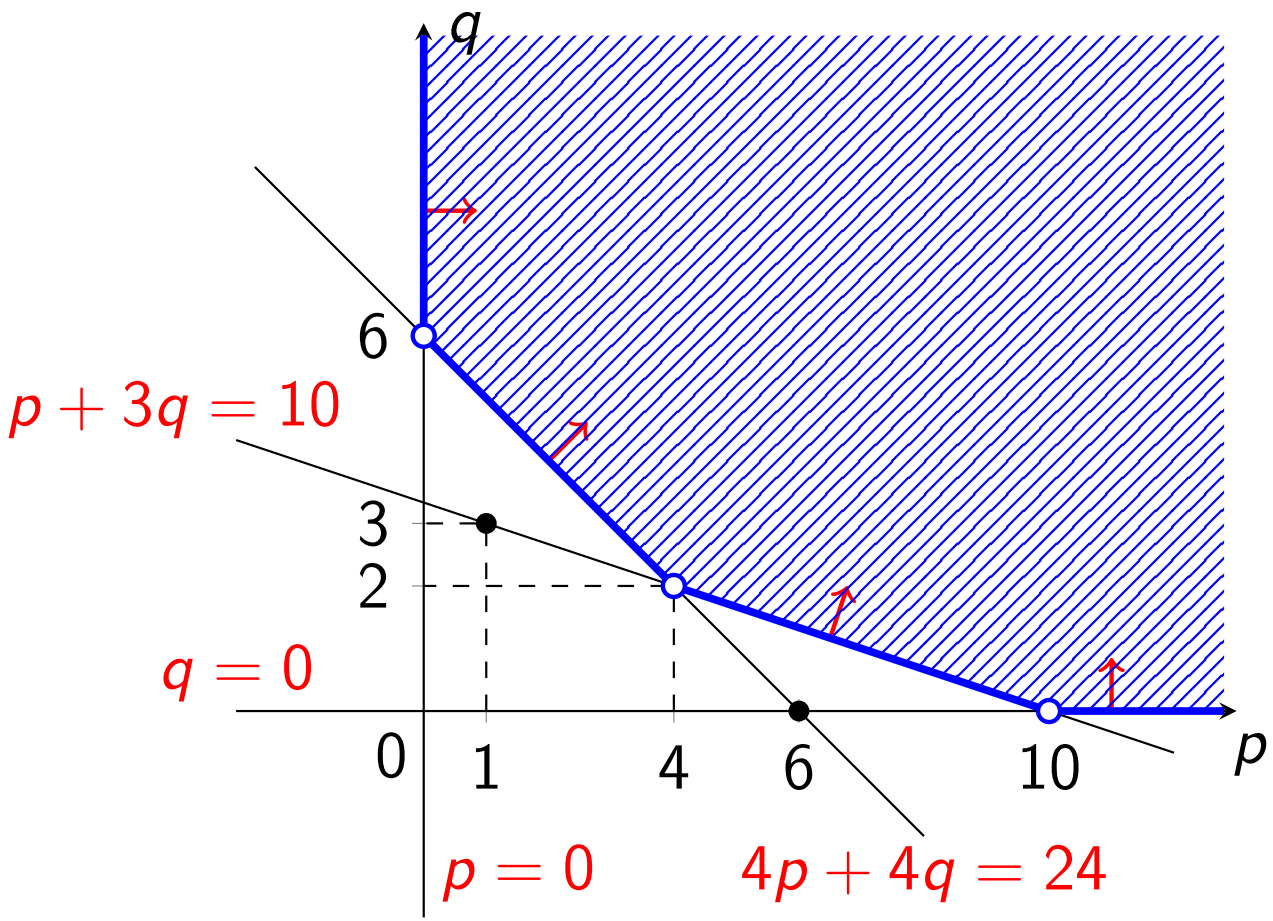


$T = 10p + 12q$

Vršna rješenja



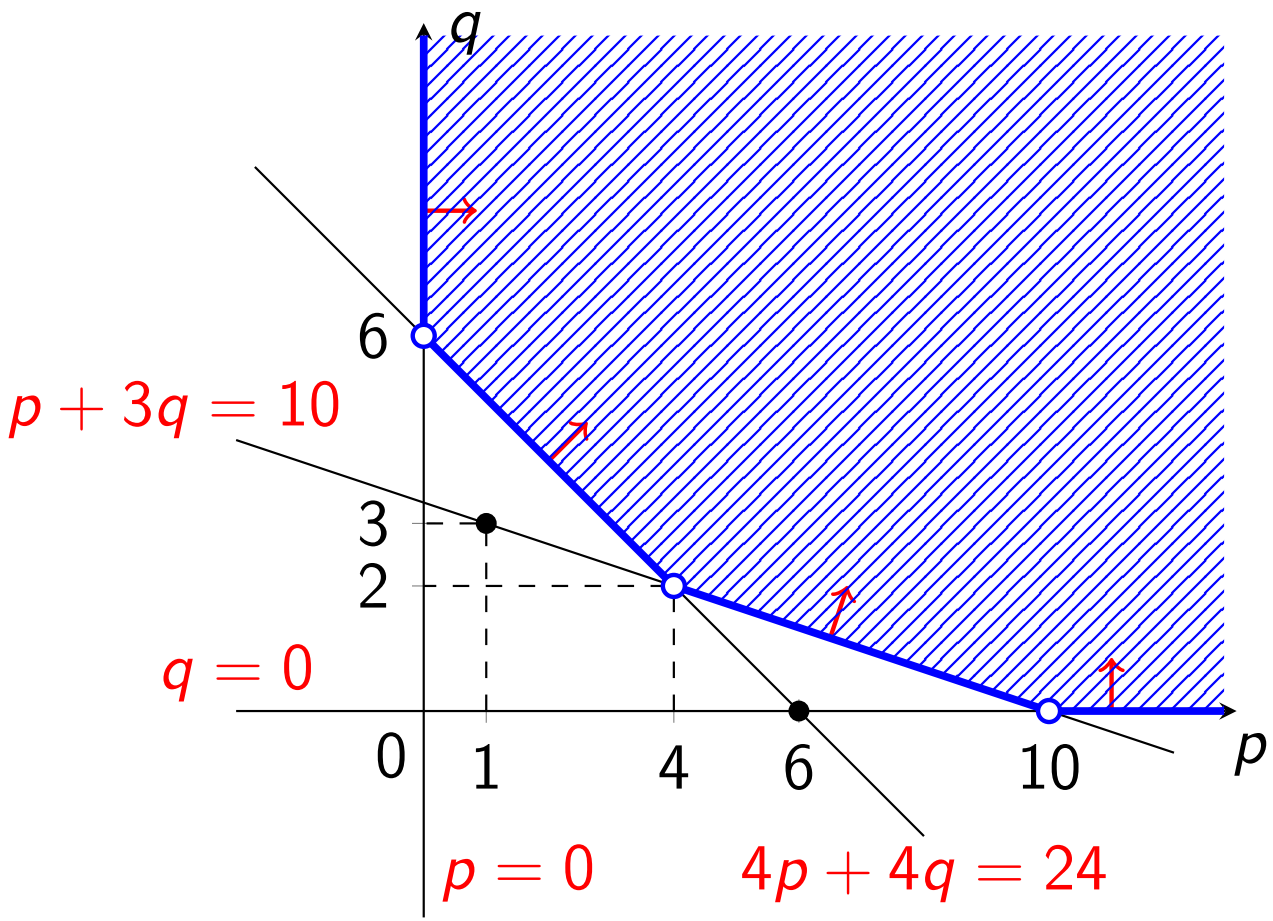
$T = 10p + 12q$



Vršna rješenja

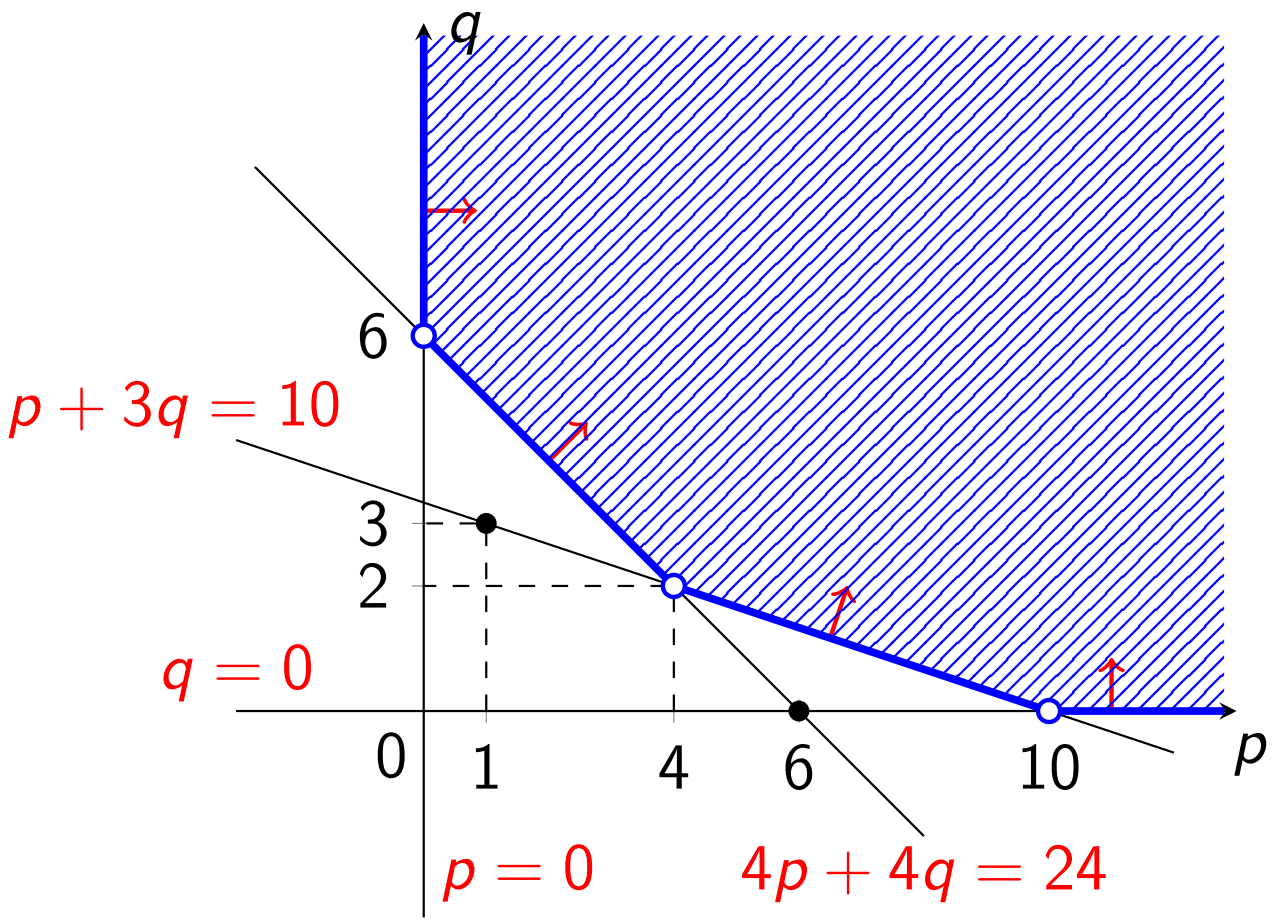
$(0, 6)$

$T = 10p + 12q$



Vršna rješenja

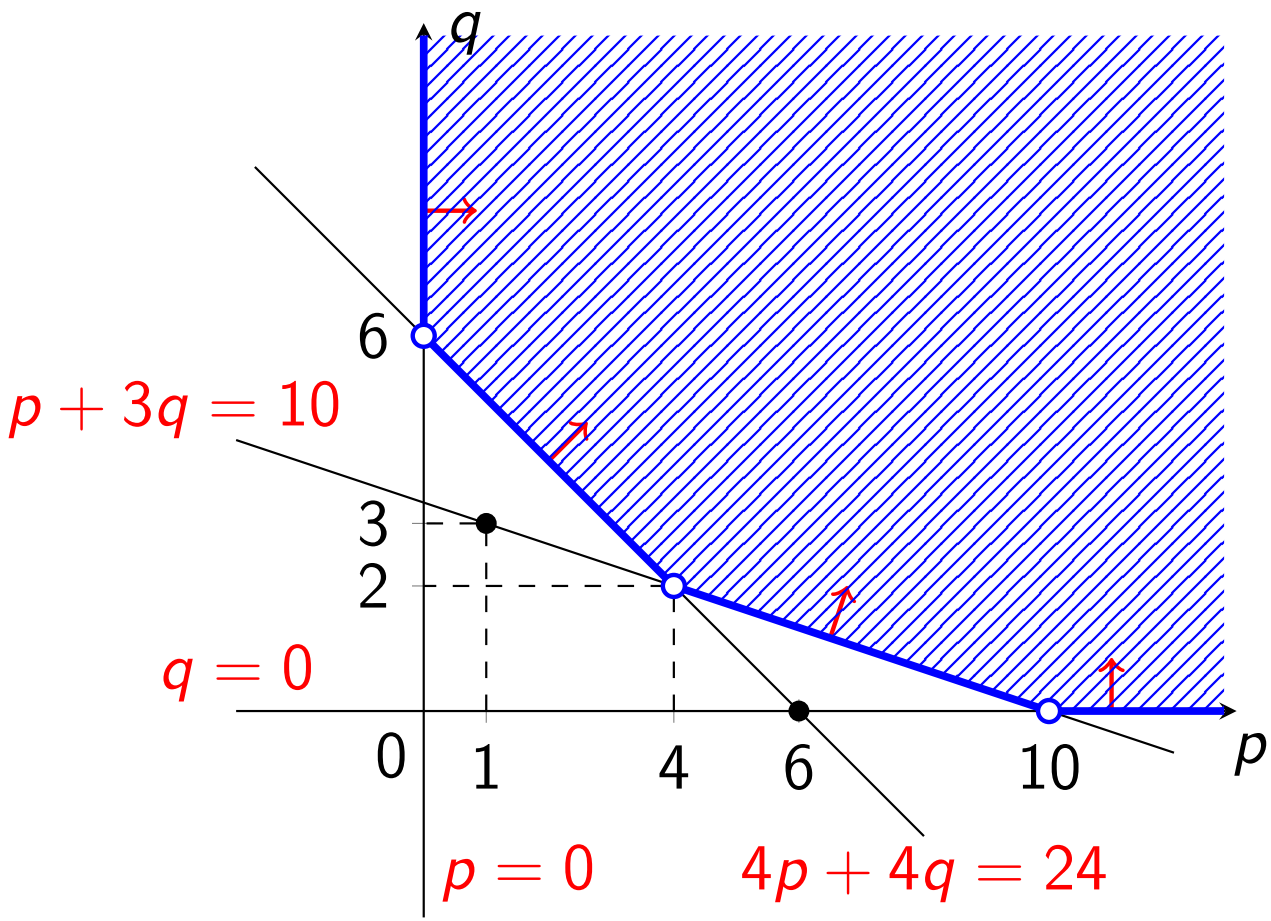
$(0, 6),\ (4, 2)$



$T = 10p + 12q$

Vršna rješenja

$(0, 6),\ (4, 2),\ (10, 0)$

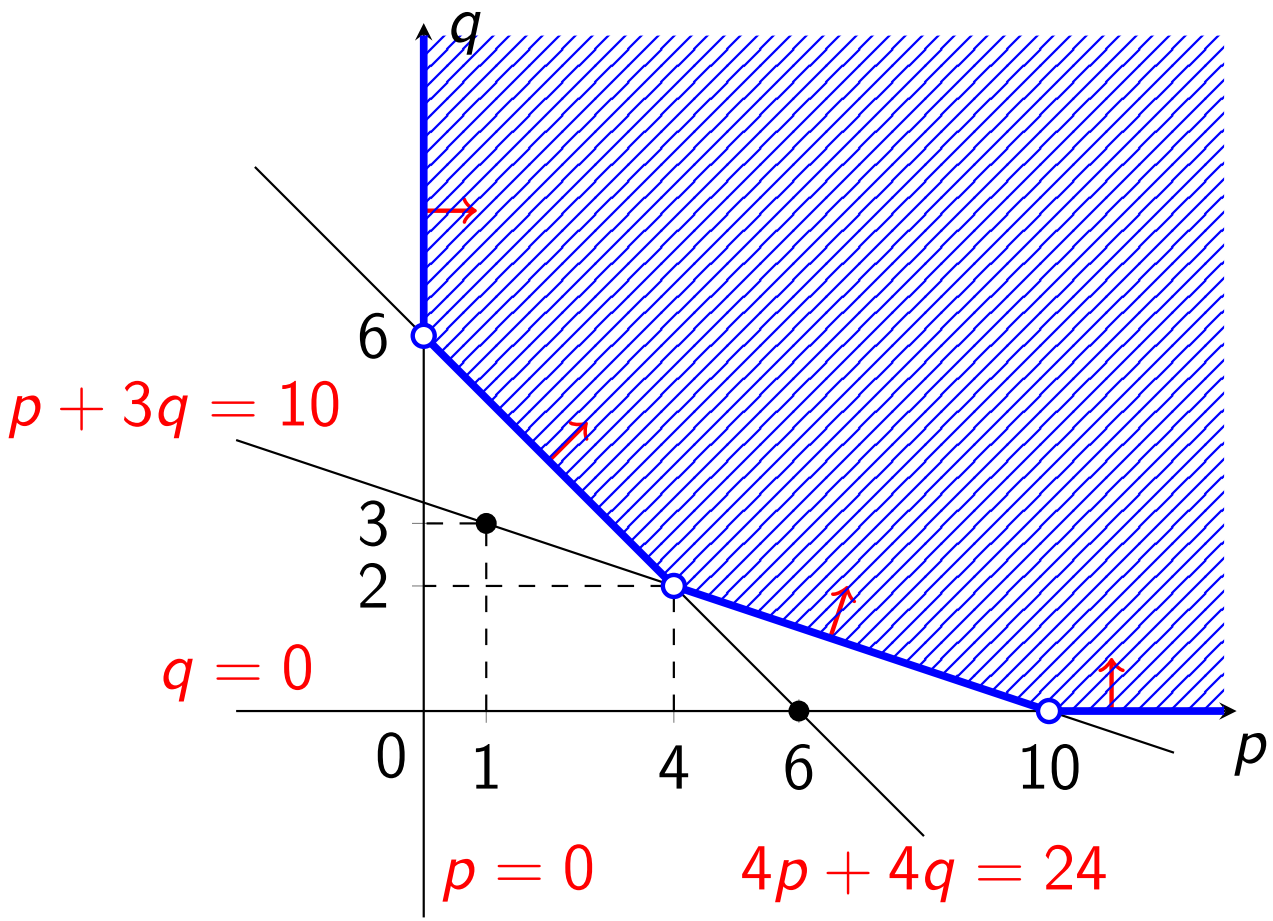


$$T = 10p + 12q$$

Vršna rješenja

$$(0, 6),\ (4, 2),\ (10, 0)$$

$$T(p, q) = 10p + 12q$$

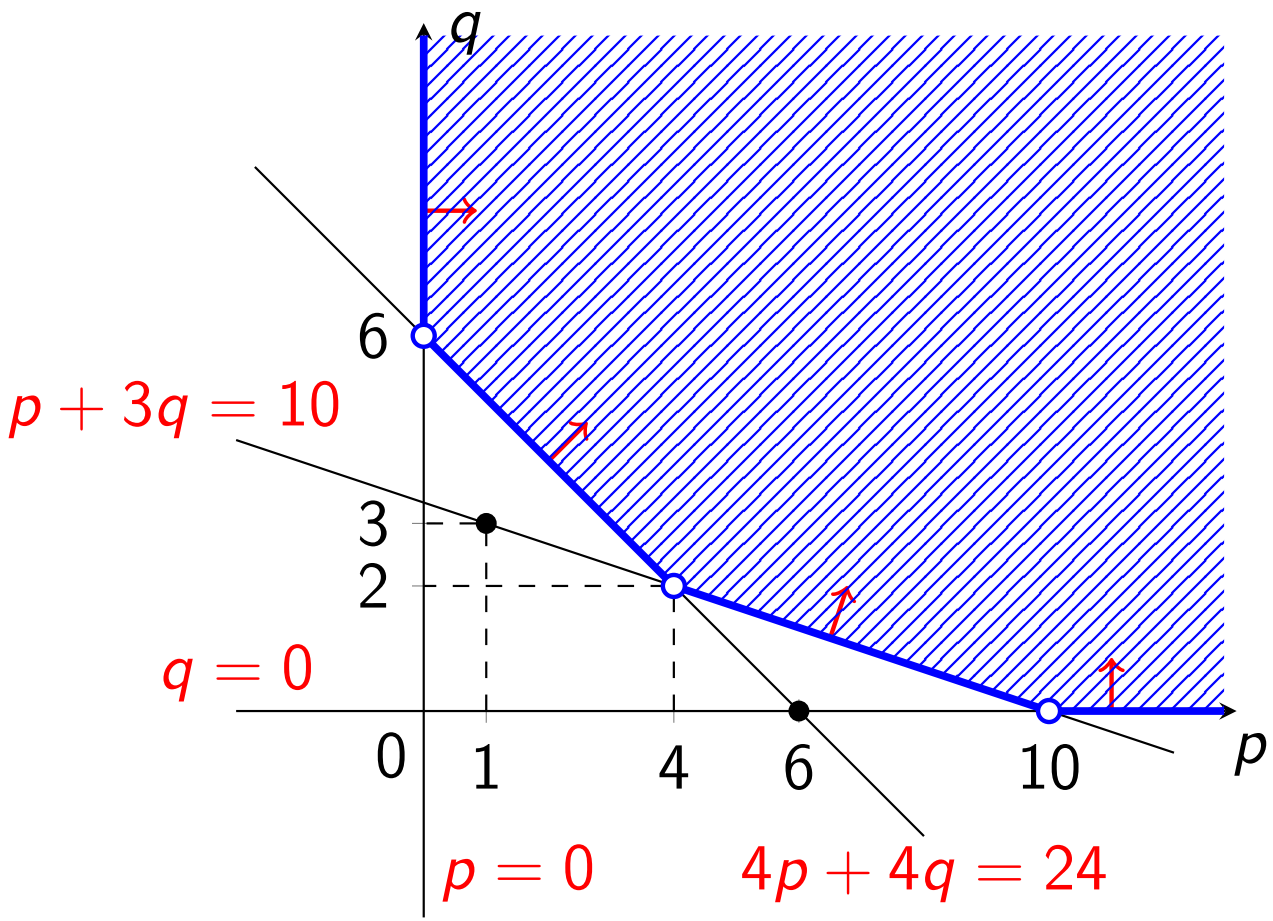


$T = 10p + 12q$

Vršna rješenja

$(0, 6),\ (4, 2),\ (10, 0)$

$T(p, q) = 10p + 12q$

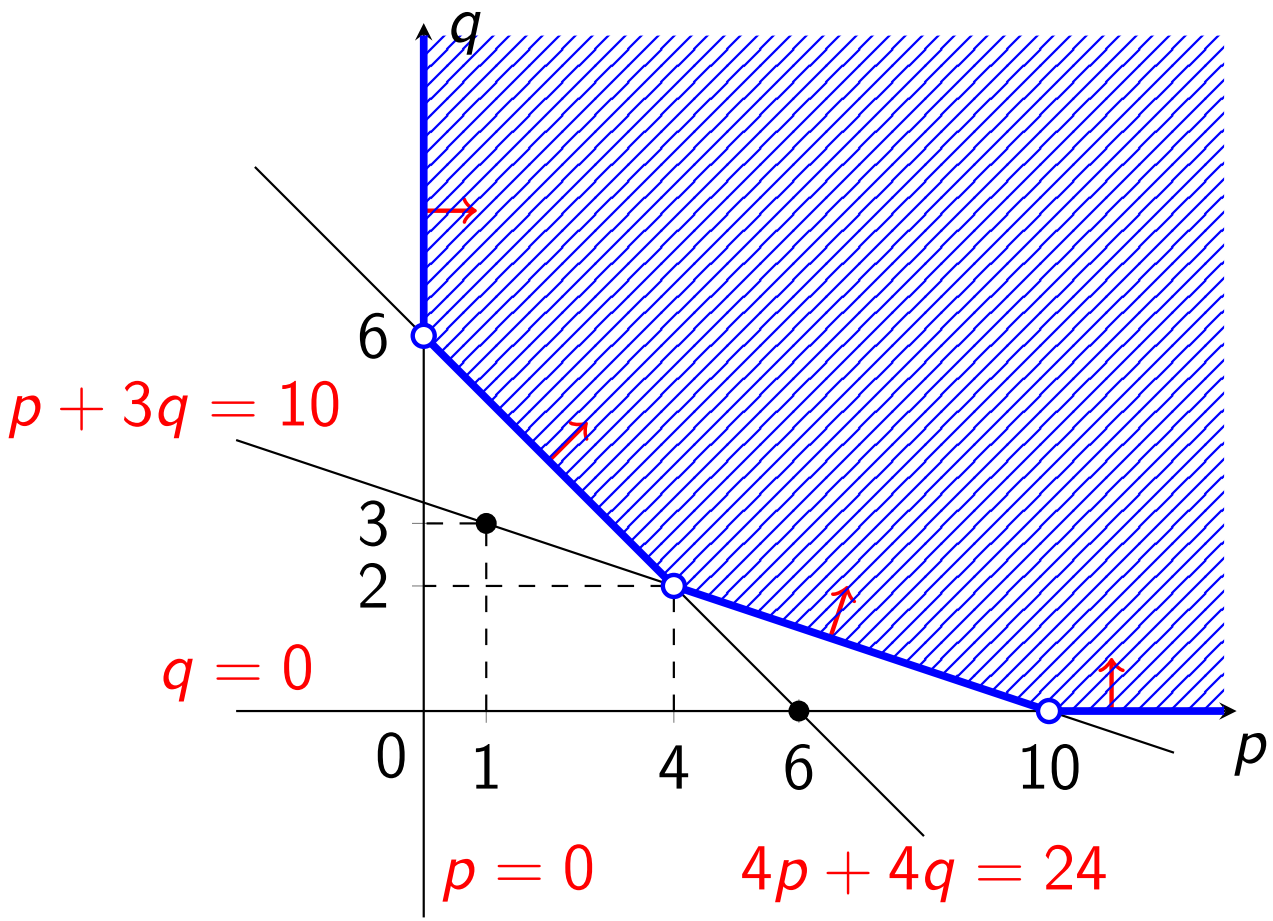


$$T = 10p + 12q$$

Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$$T(p, q) = 10p + 12q$$



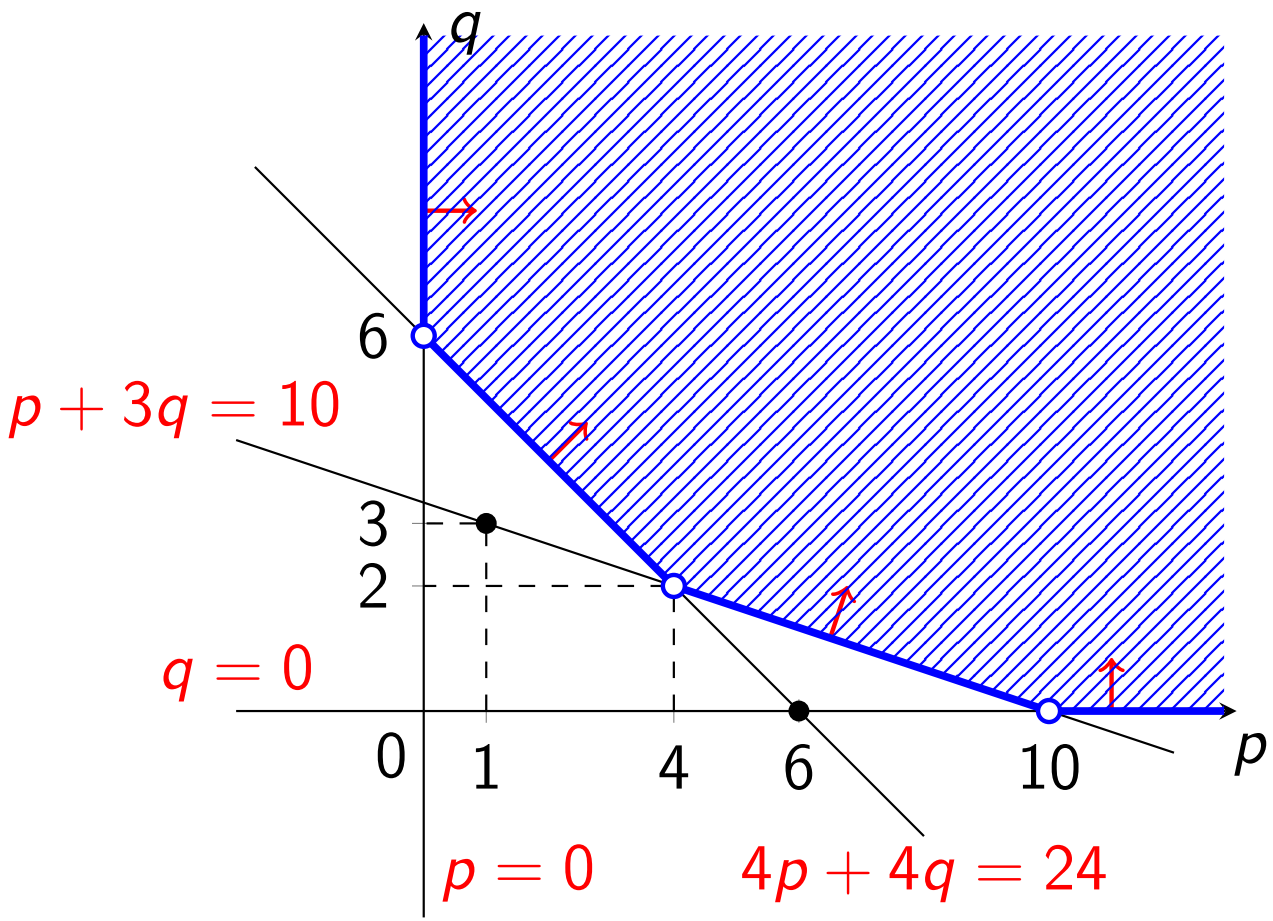
$T = 10p + 12q$

Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$T(p, q) = 10p + 12q$

$T(0, 6) =$



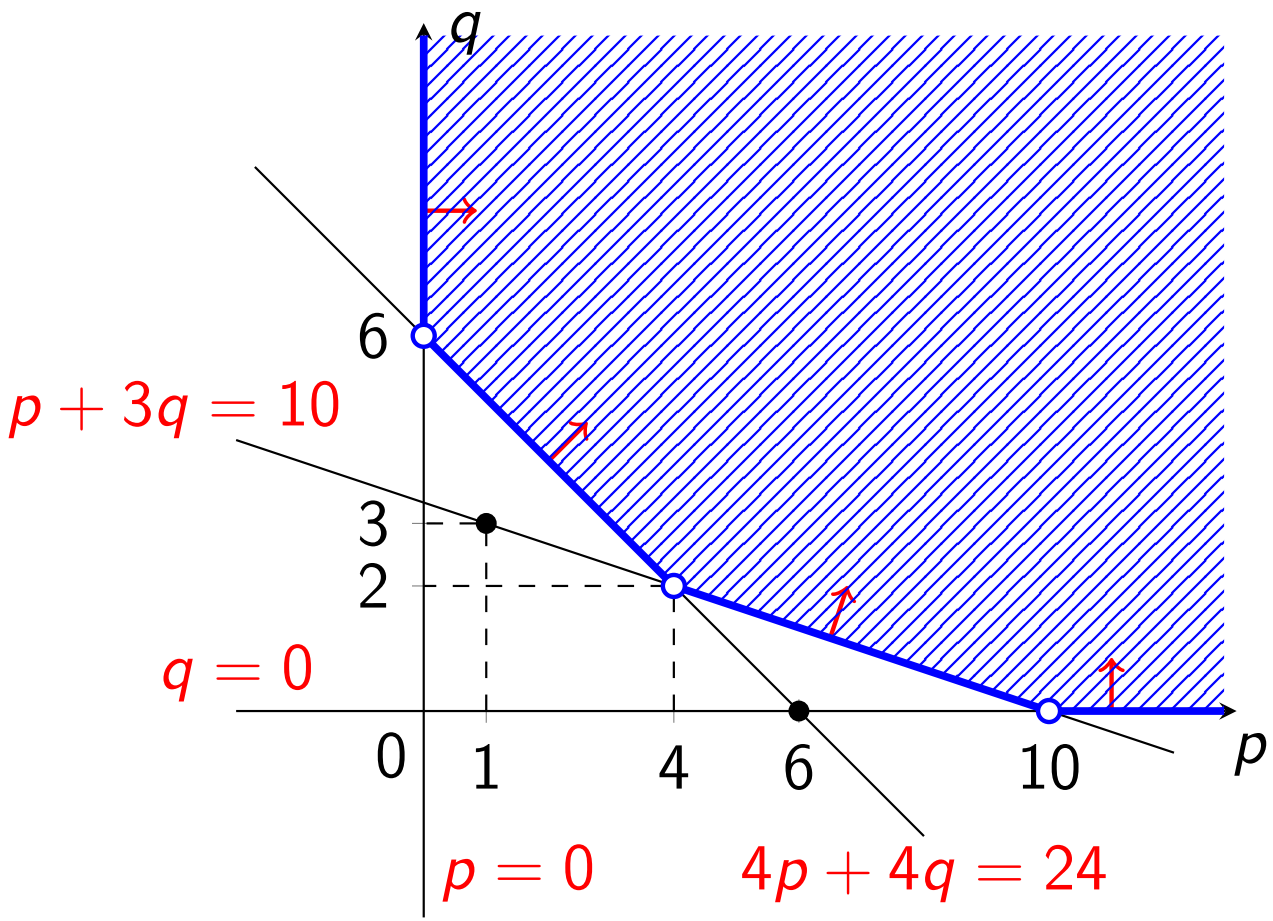
$T = 10p + 12q$

Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$T(p, q) = 10p + 12q$

$T(0, 6) = 10 \cdot 0 + 12 \cdot 6$



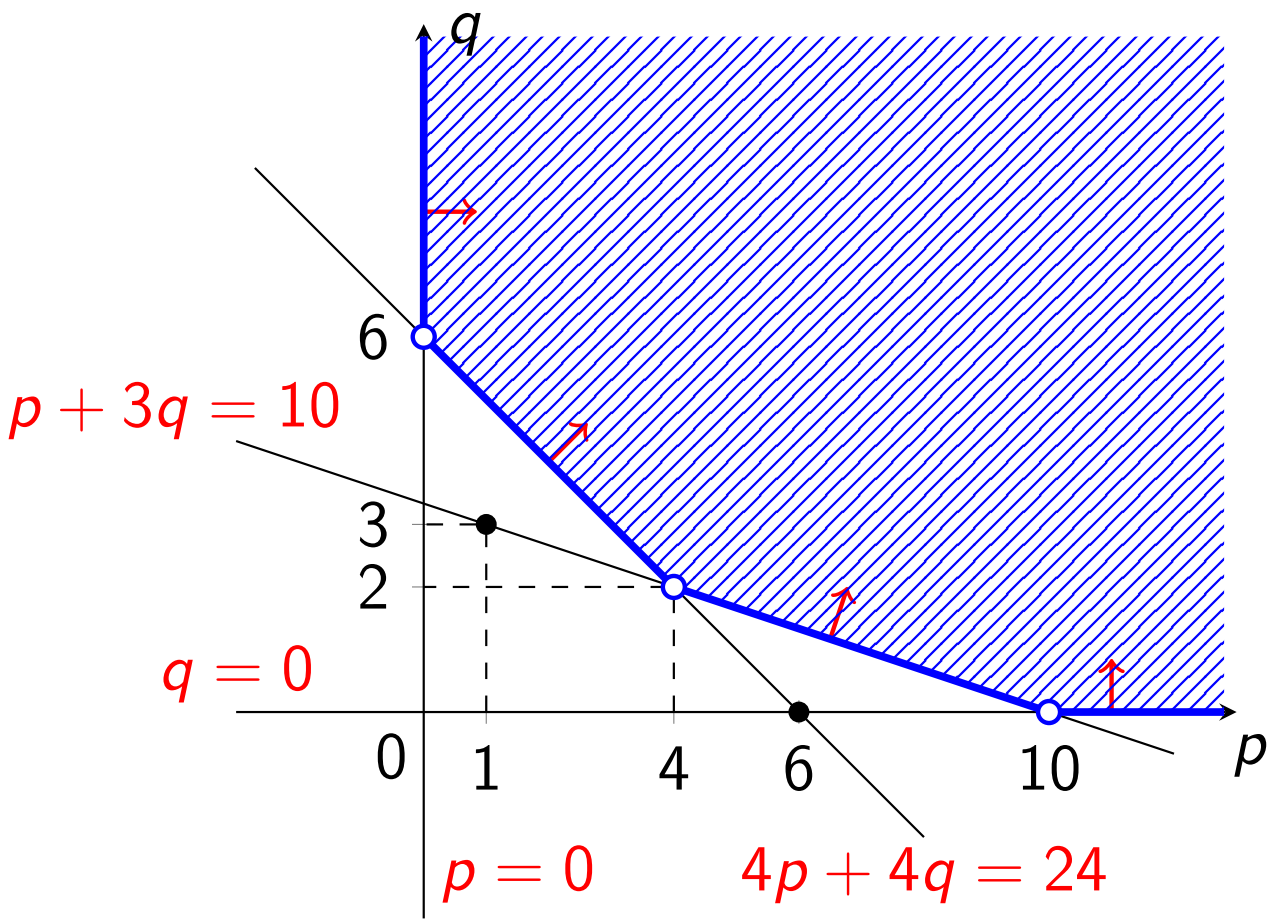
$$T = 10p + 12q$$

Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$$T(p,q) = 10p + 12q$$

$$T(0,6) = 10 \cdot 0 + 12 \cdot 6 = 72$$



$T = 10p + 12q$

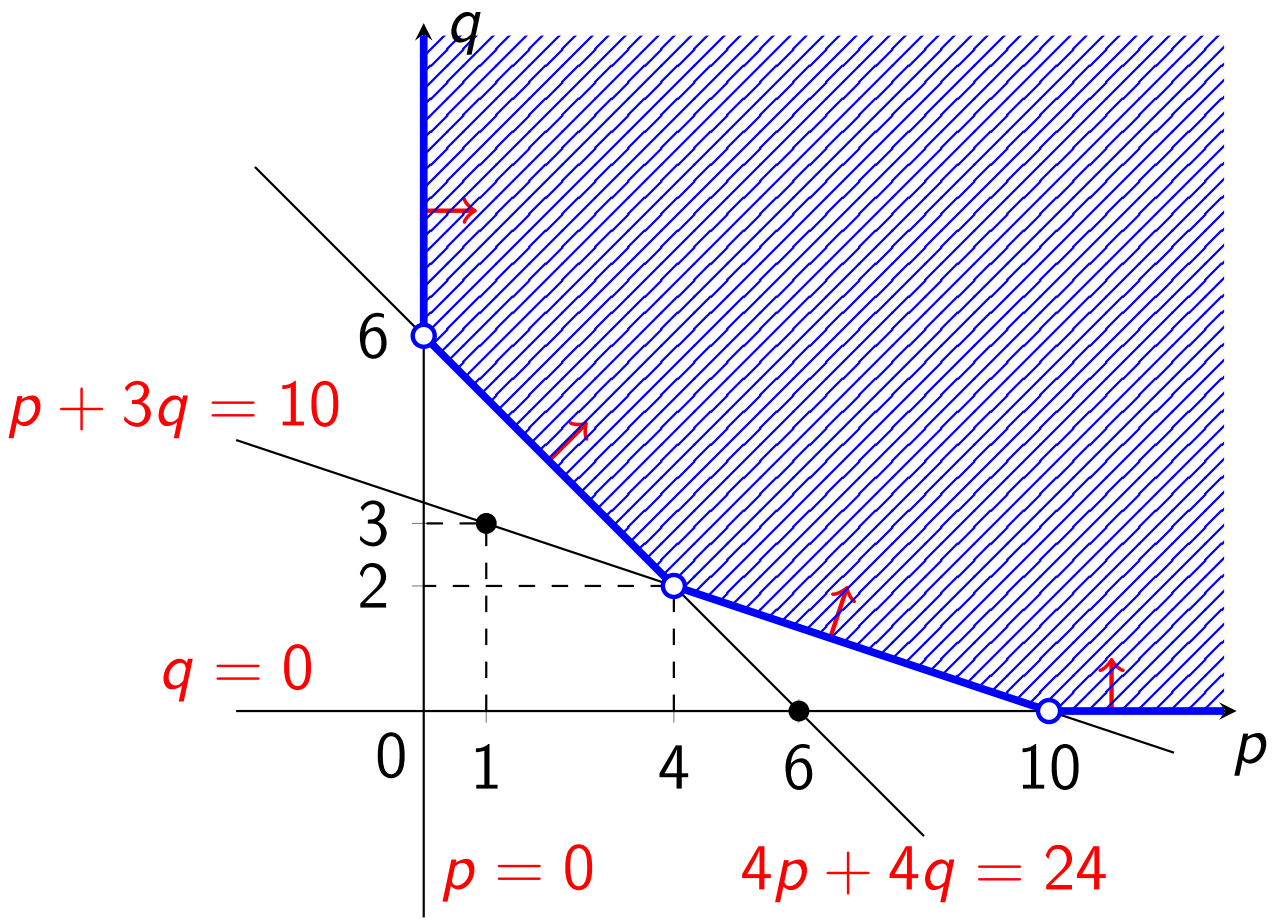
Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$T(p, q) = 10p + 12q$

$T(0, 6) = 10 \cdot 0 + 12 \cdot 6 = 72$

$T(4, 2) =$



$$T = 10p + 12q$$

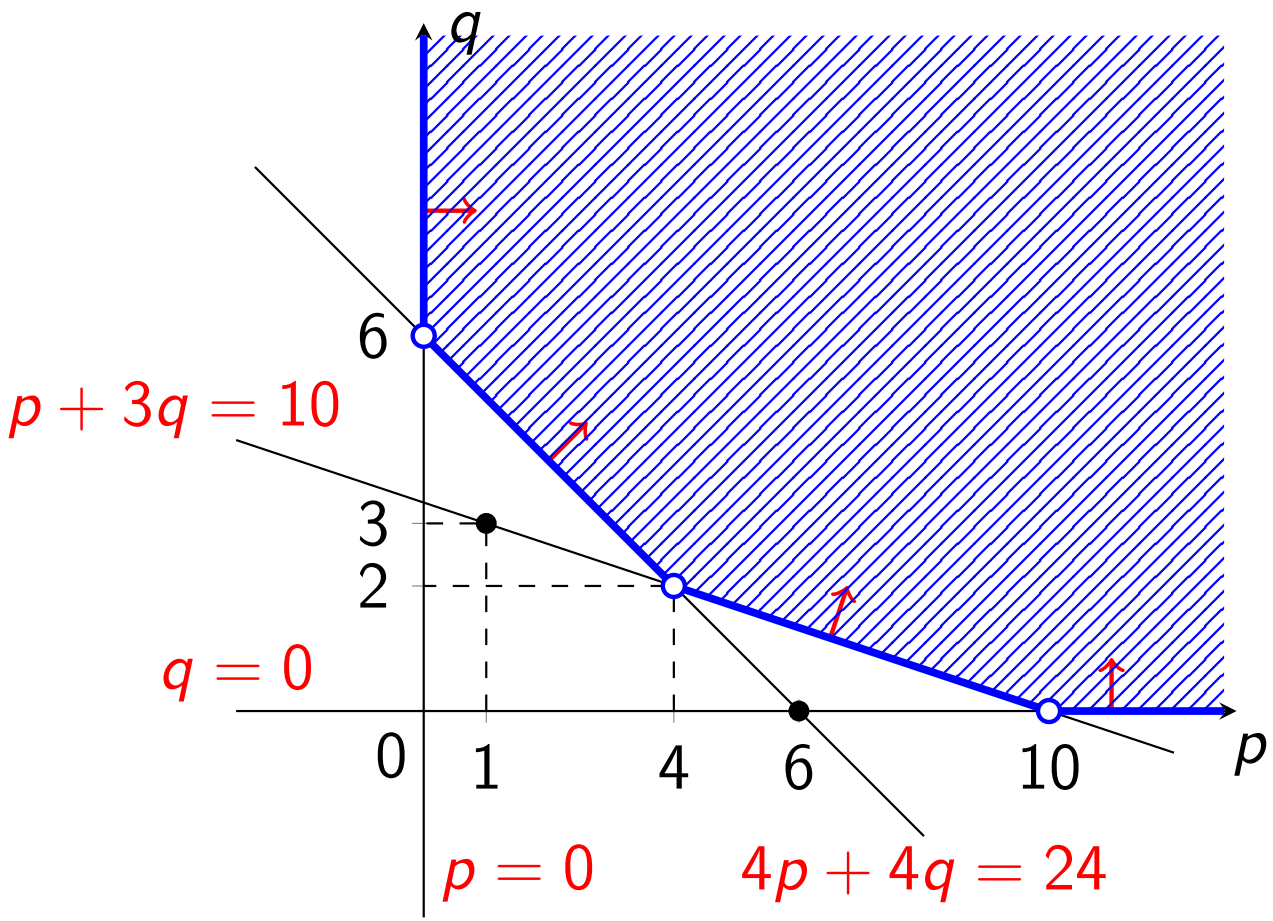
Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$$T(p,q) = 10p + 12q$$

$$T(0,6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4,2) = 10 \cdot 4 + 12 \cdot 2$$



$T = 10p + 12q$

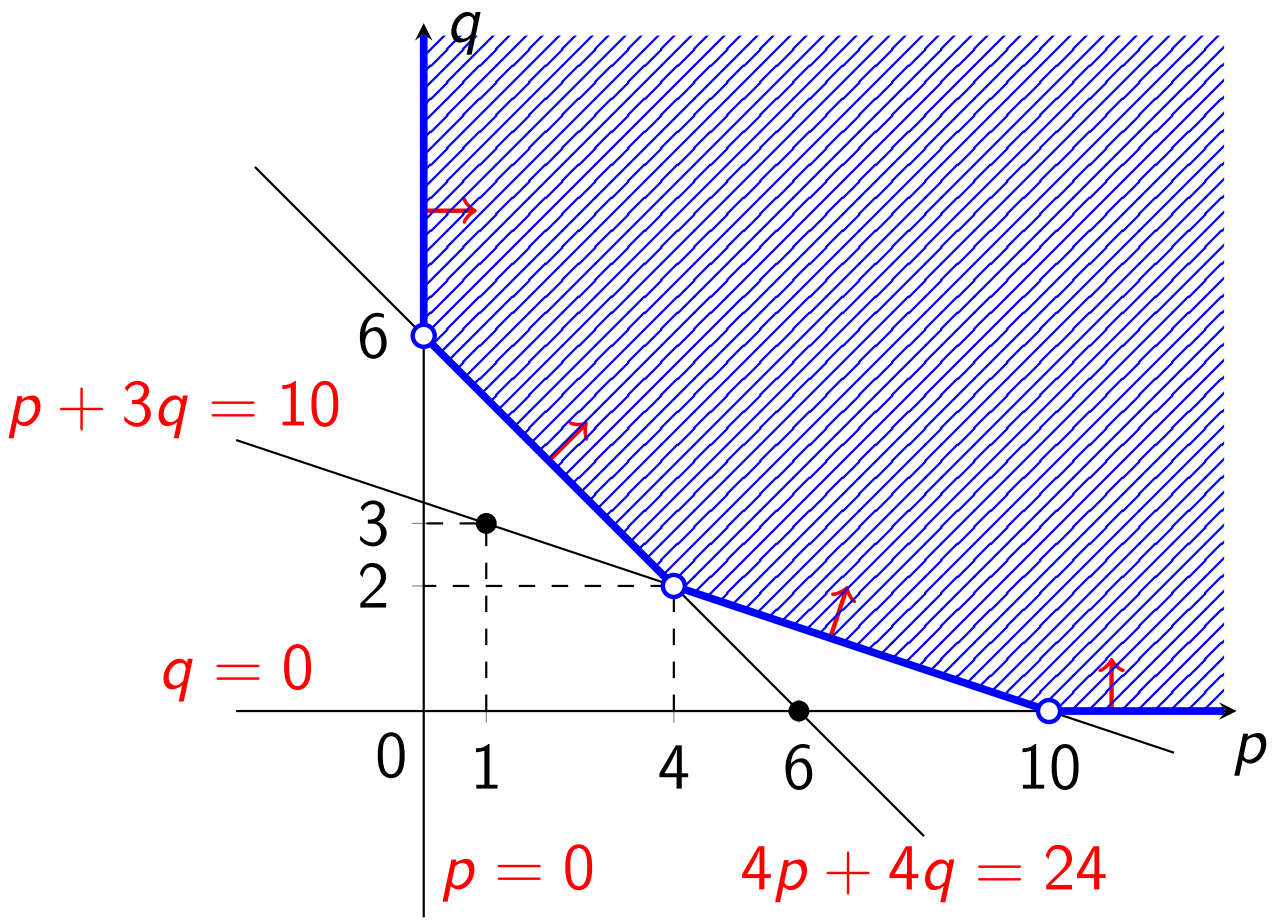
Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$T(p, q) = 10p + 12q$

$T(0, 6) = 10 \cdot 0 + 12 \cdot 6 = 72$

$T(4, 2) = 10 \cdot 4 + 12 \cdot 2 = 64$



$T = 10p + 12q$

Vršna rješenja

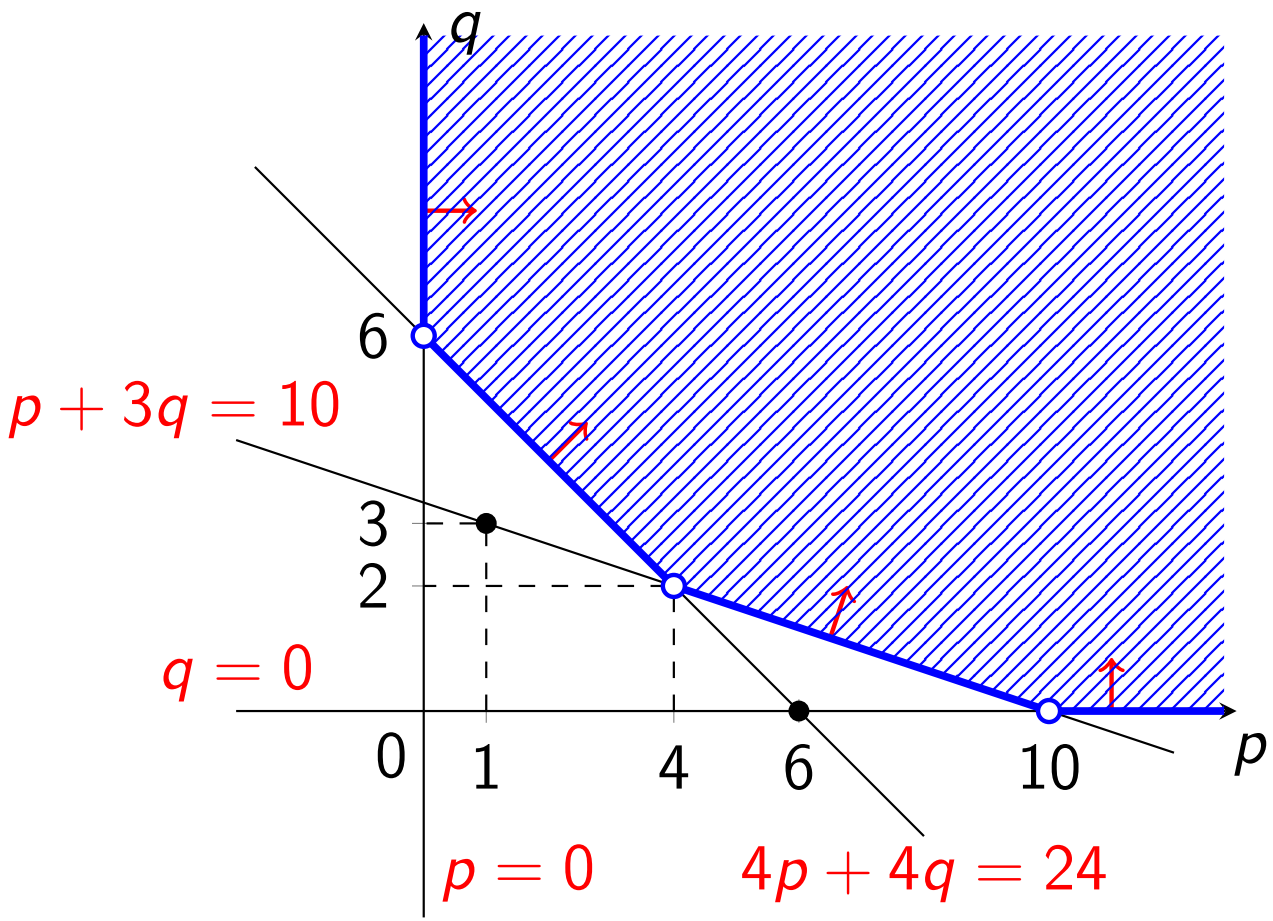
p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$T(p, q) = 10p + 12q$

$T(0, 6) = 10 \cdot 0 + 12 \cdot 6 = 72$

$T(4, 2) = 10 \cdot 4 + 12 \cdot 2 = 64$

$T(10, 0) =$



$$T = 10p + 12q$$

Vršna rješenja

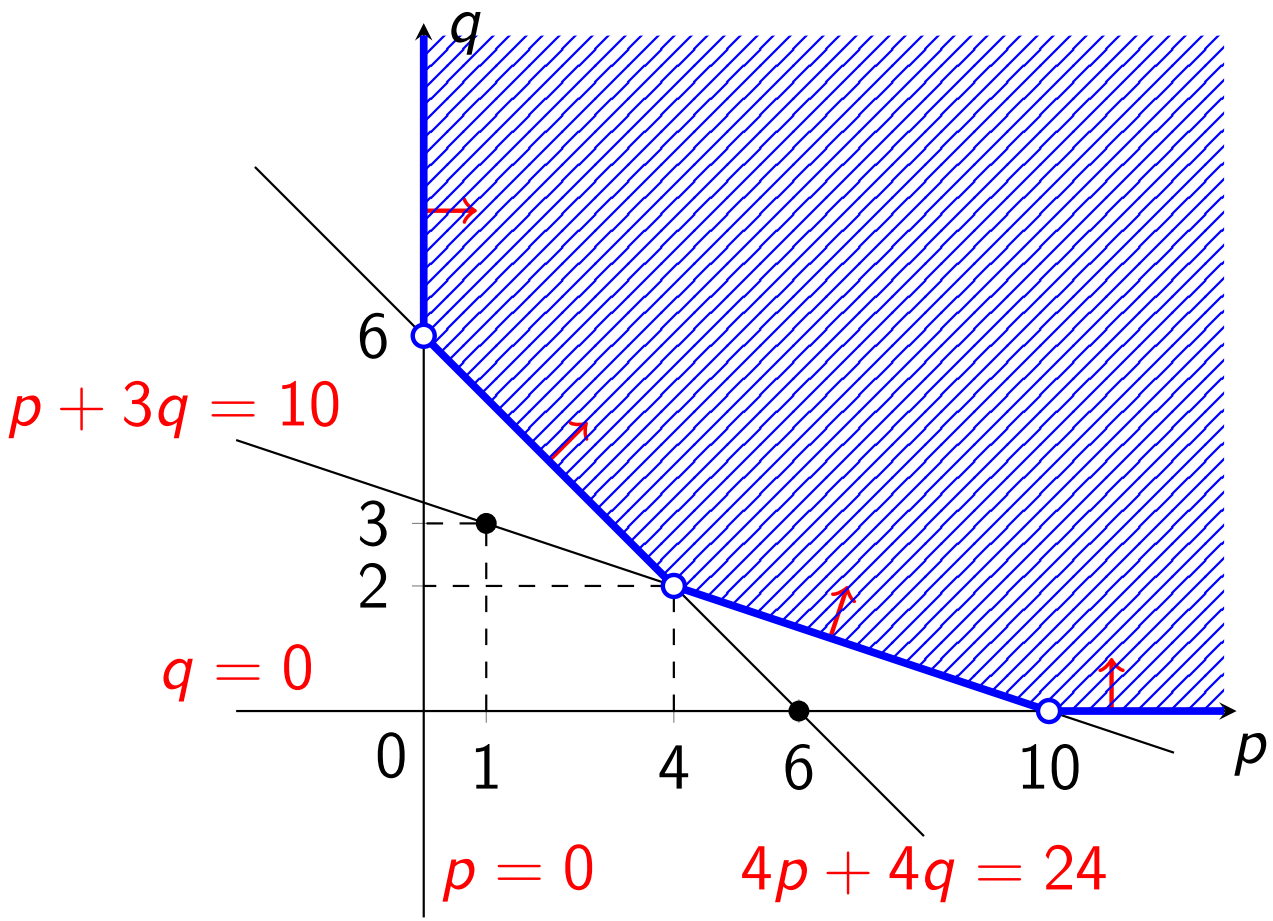
p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$$T(p,q) = 10p + 12q$$

$$T(0,6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4,2) = 10 \cdot 4 + 12 \cdot 2 = 64$$

$$T(10,0) = 10 \cdot 10 + 12 \cdot 0$$



$$T = 10p + 12q$$

Vršna rješenja

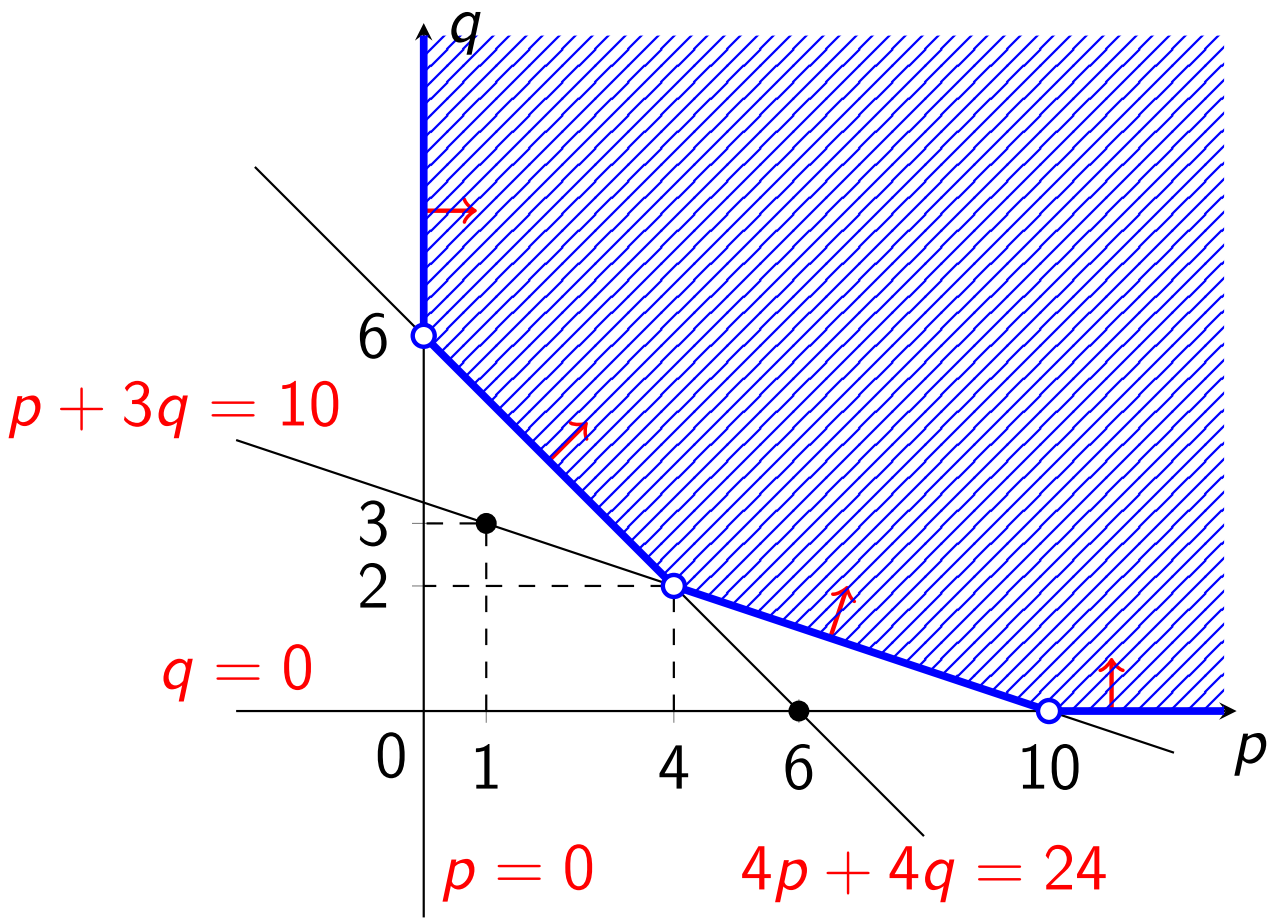
p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

$$T(p,q) = 10p + 12q$$

$$T(0,6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4,2) = 10 \cdot 4 + 12 \cdot 2 = 64$$

$$T(10,0) = 10 \cdot 10 + 12 \cdot 0 = 100$$



$$T = 10p + 12q$$

Vršna rješenja

p	q	p	q	p	q
$(0,$	$6),$	$(4,$	$2),$	$(10,$	$0)$

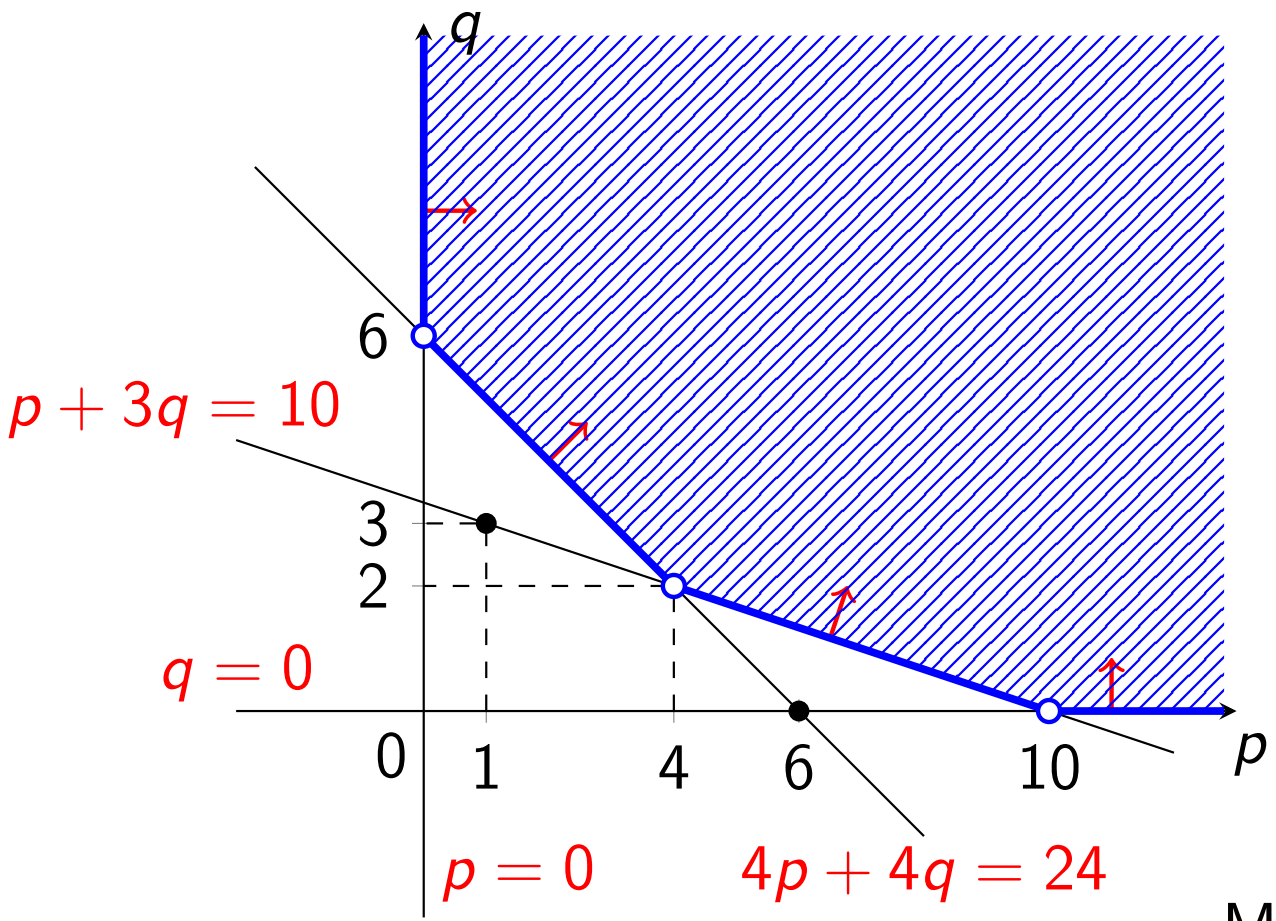
$$T(p,q) = 10p + 12q$$

$$T(0,6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4,2) = 10 \cdot 4 + 12 \cdot 2 = 64 \leftarrow \text{MINIMUM}$$

$$T(10,0) = 10 \cdot 10 + 12 \cdot 0 = 100$$

$$T = 10p + 12q$$



Vršna rješenja

p q p q p q

$(0, 6),\ (4, 2),\ (10, 0)$

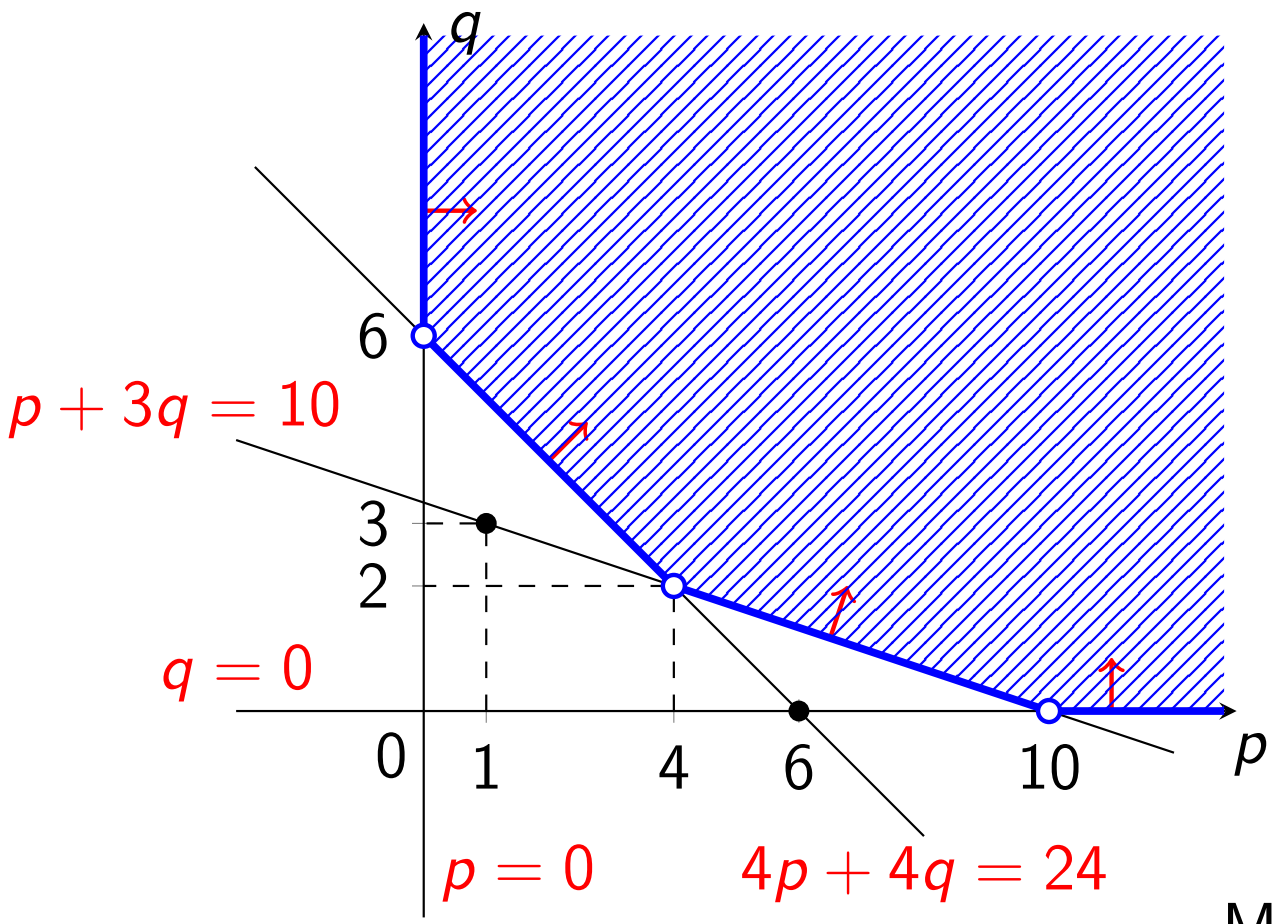
$$T(p, q) = 10p + 12q$$

$$T(0, 6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4, 2) = 10 \cdot 4 + 12 \cdot 2 = 64 \leftarrow \text{MINIMUM}$$

$$T(10, 0) = 10 \cdot 10 + 12 \cdot 0 = 100$$

Minimalni troškovi iznose 64 novčane jedinice ako se kupe četiri tablete P i dvije tablete Q.



$$T = 10p + 12q$$

Vršna rješenja

p q $\quad$ p q $\quad$ p q

$(0, 6),\ (4, 2),\ (10, 0)$

$$T(p, q) = 10p + 12q$$

$$T(0, 6) = 10 \cdot 0 + 12 \cdot 6 = 72$$

$$T(4, 2) = 10 \cdot 4 + 12 \cdot 2 = 64 \leftarrow \text{MINIMUM}$$

$$T(10, 0) = 10 \cdot 10 + 12 \cdot 0 = 100$$

Minimalni troškovi iznose 64 novčane jedinice ako se kupe četiri tablete P i dvije tablete Q.

MAKSIMUM NE POSTOJI

treći zadatak

Zadatak 3

Novčani iznos od $12\,000\,€$ *može se investirati u tri različita fonda. U prvom fondu godišnja zarada je* 7%*, u drugom fondu* 8%*, a u trećem visokorizičnom fondu* 12%*. Kako bi se smanjio rizik, u visokorizični fond uložit će se najviše* $2000\,€$*. Iz određenih ekonomskih razloga bolje je uložiti barem tri puta veći novčani iznos u prvi fond u odnosu na uloženi iznos u drugom fondu. Koje je optimalno ulaganje navedenog iznosa u spomenuta tri fonda kako bi se ostvarila maksimalna godišnja zarada? Koliko iznosi maksimalna godišnja zarada?*

Rješenje

Oznake

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

$$x \geqslant 0, \quad y \geqslant 0, \quad 12 - x - y \geqslant 0$$

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

$$x \geqslant 0, \quad y \geqslant 0, \quad 12 - x - y \geqslant 0$$

- U 3. fond je uloženo najviše 2000 €

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

$$x \geqslant 0, \quad y \geqslant 0, \quad 12 - x - y \geqslant 0$$

- U 3. fond je uloženo najviše 2000 €

$$12 - x - y \leqslant 2$$

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

$$x \geqslant 0, \quad y \geqslant 0, \quad 12 - x - y \geqslant 0$$

- U 3. fond je uloženo najviše 2000 €

$$12 - x - y \leqslant 2$$

- U 1. fond je uložen barem trostruko veći iznos u odnosu na 2. fond

Rješenje

Oznake

$x \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 1. fond

$y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 2. fond

$12 - x - y \longrightarrow$ novčani iznos u tisućama eura koji je uložen u 3. fond

Ograničenja

- novčani iznosi su $\geqslant 0$

$$x \geqslant 0, \quad y \geqslant 0, \quad 12 - x - y \geqslant 0$$

- U 3. fond je uloženo najviše 2000 €

$$12 - x - y \leqslant 2$$

- U 1. fond je uložen barem trostruko veći iznos u odnosu na 2. fond

$$x \geqslant 3y$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\}$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{array}{l} \\ \\ \\ \\ \\ \end{array}\right\}$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left\{ x \geqslant 0 \right\}$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \end{aligned}\right\}$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left\{\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \end{aligned}\right.$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left\{\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \end{aligned}\right\}$$

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left\{\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right.$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left\{\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right.$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K =$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x +$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y +$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

$$K =$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

$$K = 1.44$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

$$K = 1.44 - 0.05x$$

Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

$$K = 1.44 - 0.05x - 0.04y$$

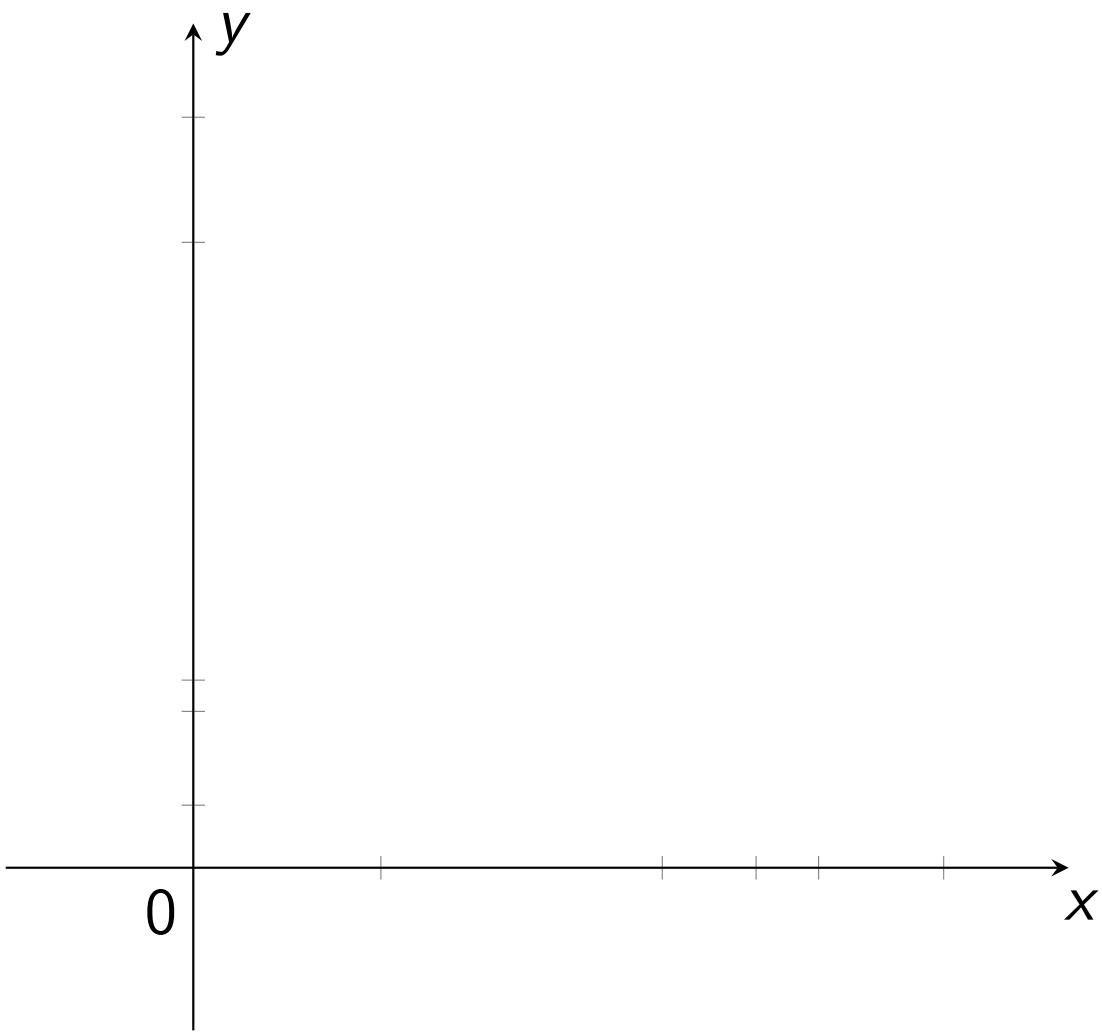
Ograničenja

$$\left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ 12 - x - y &\geqslant 0 \\ 12 - x - y &\leqslant 2 \\ x &\geqslant 3y \end{aligned}\right\} \rightsquigarrow \left.\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}\right\}$$

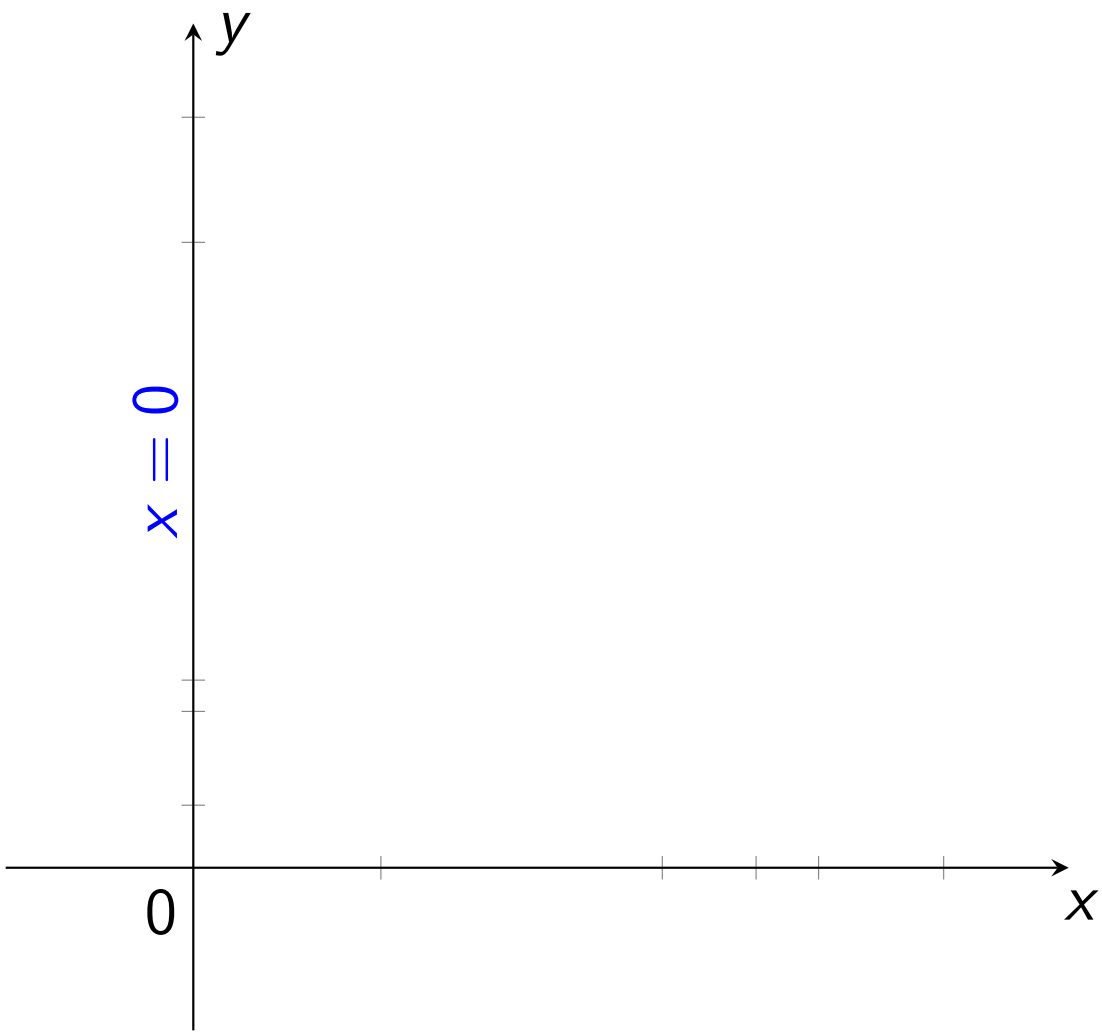
Funkcija zarade (u tisućama eura)

$$K = 0.07x + 0.08y + 0.12 \cdot (12 - x - y)$$

$$\boxed{K = 1.44 - 0.05x - 0.04y}$$

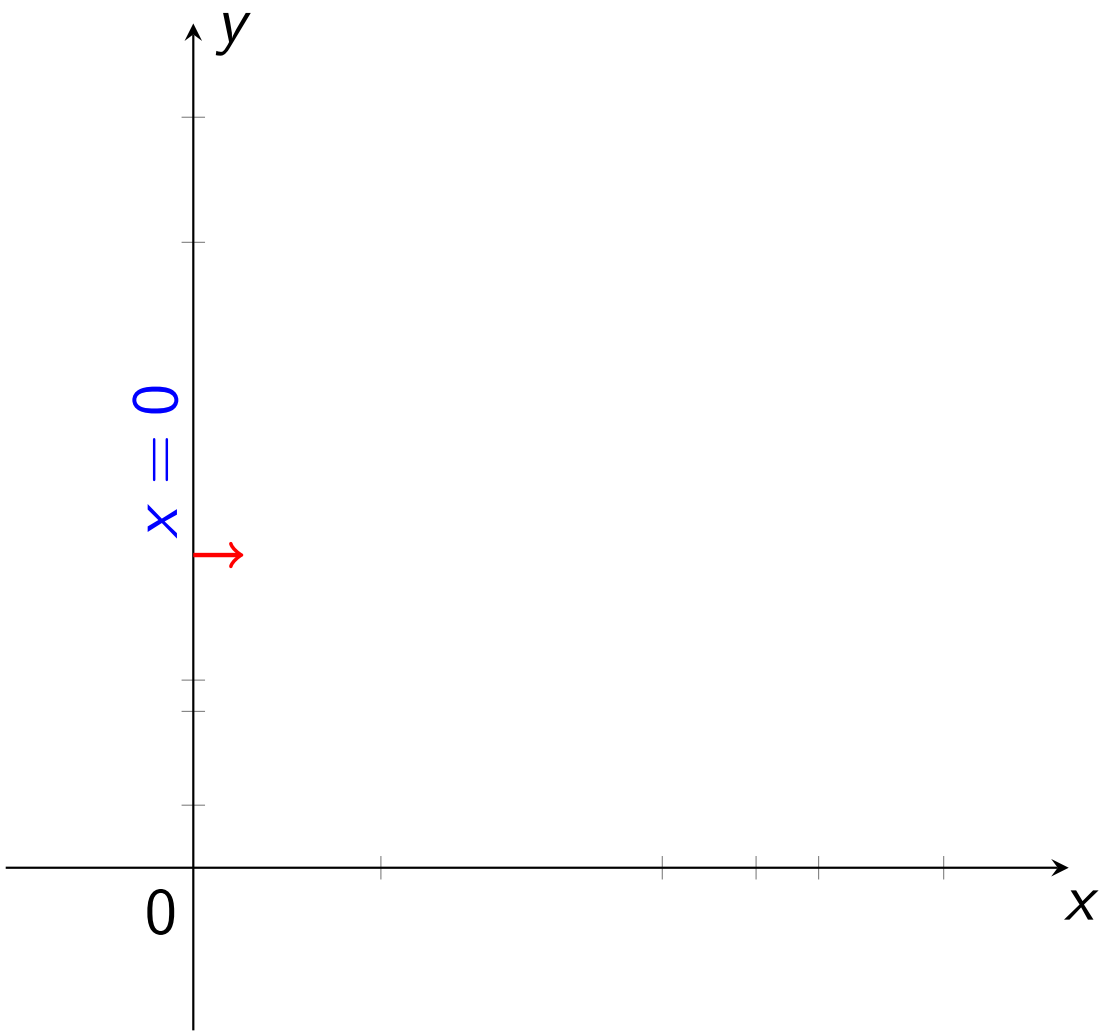


$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

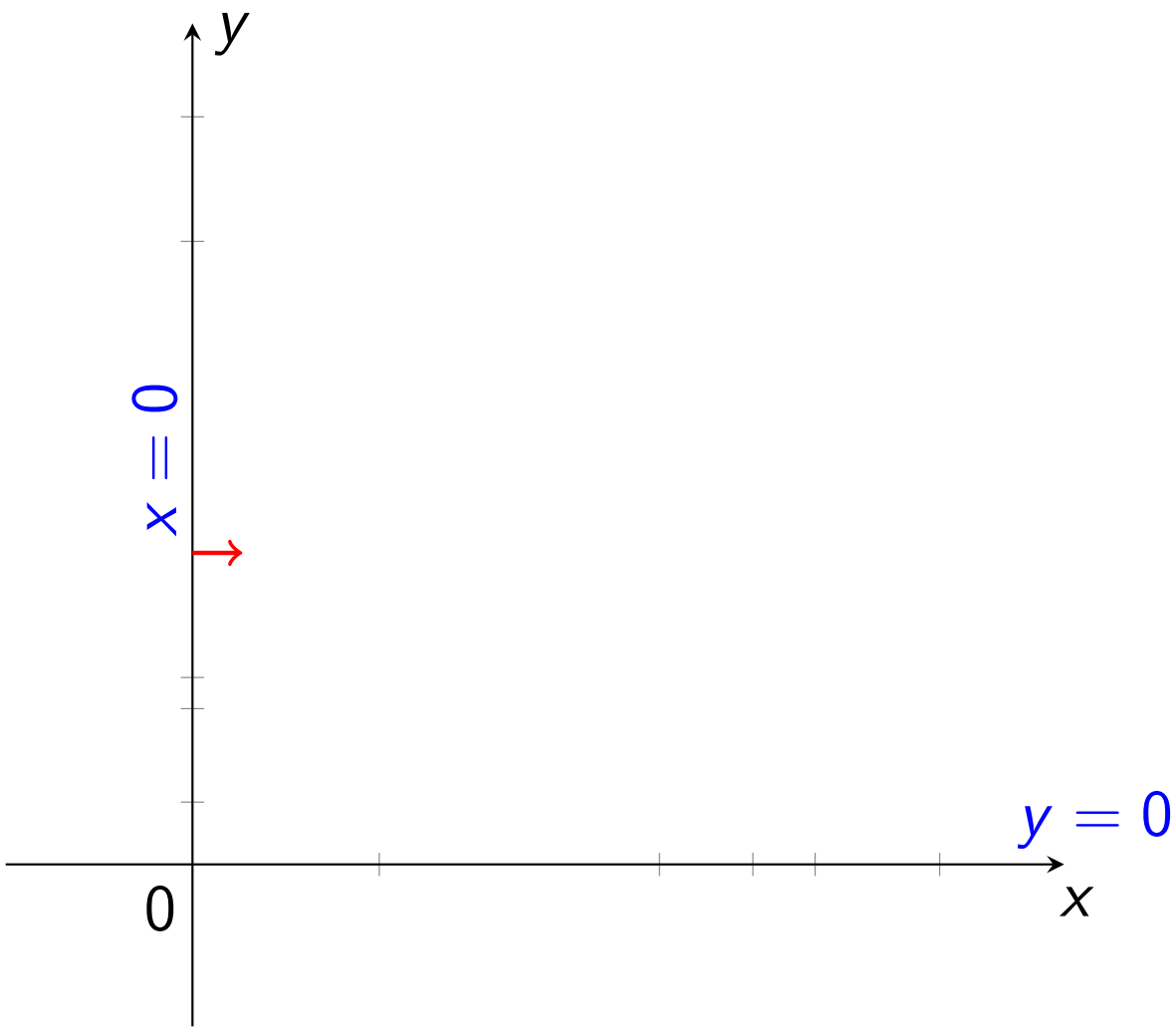


$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

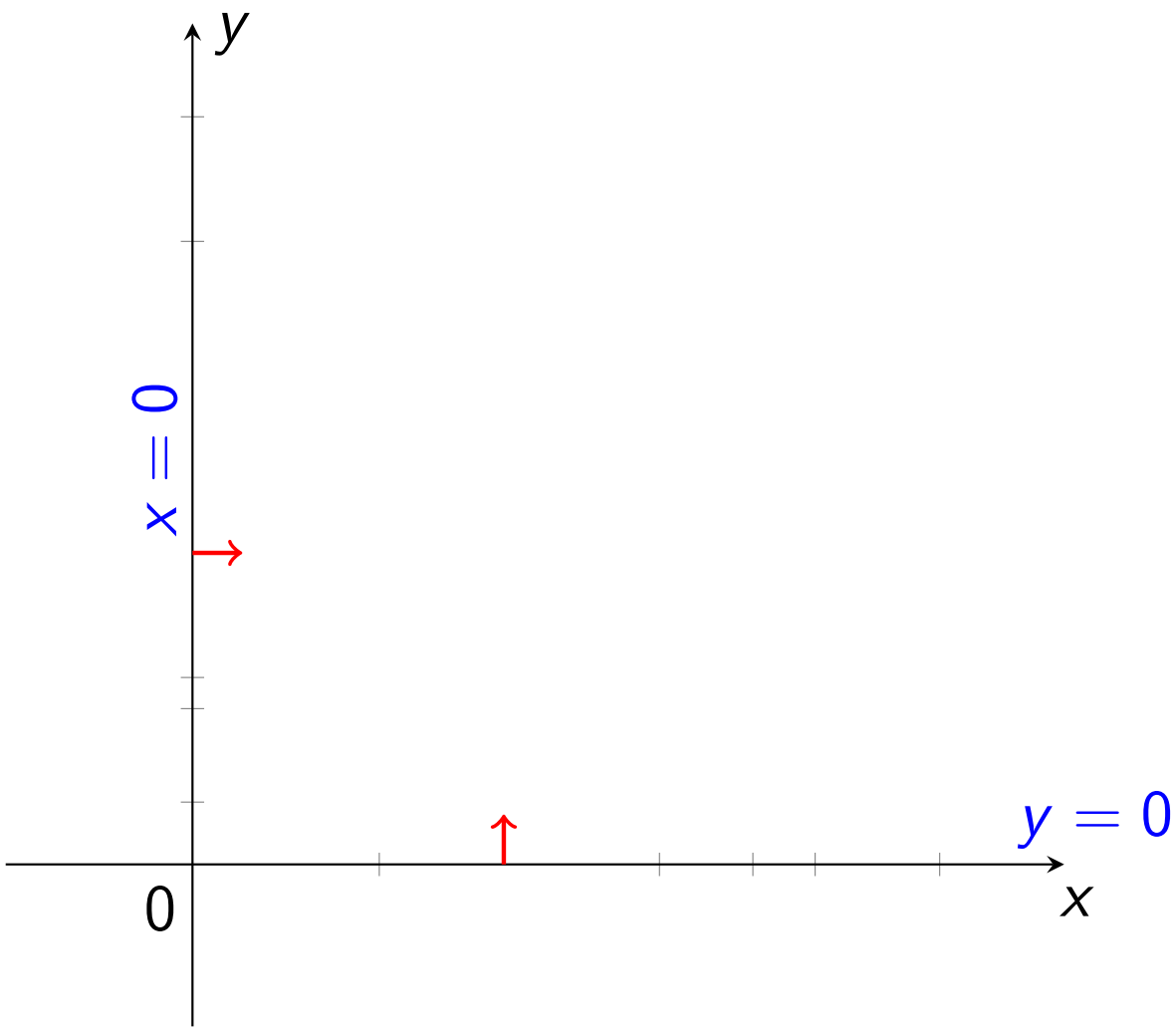
$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

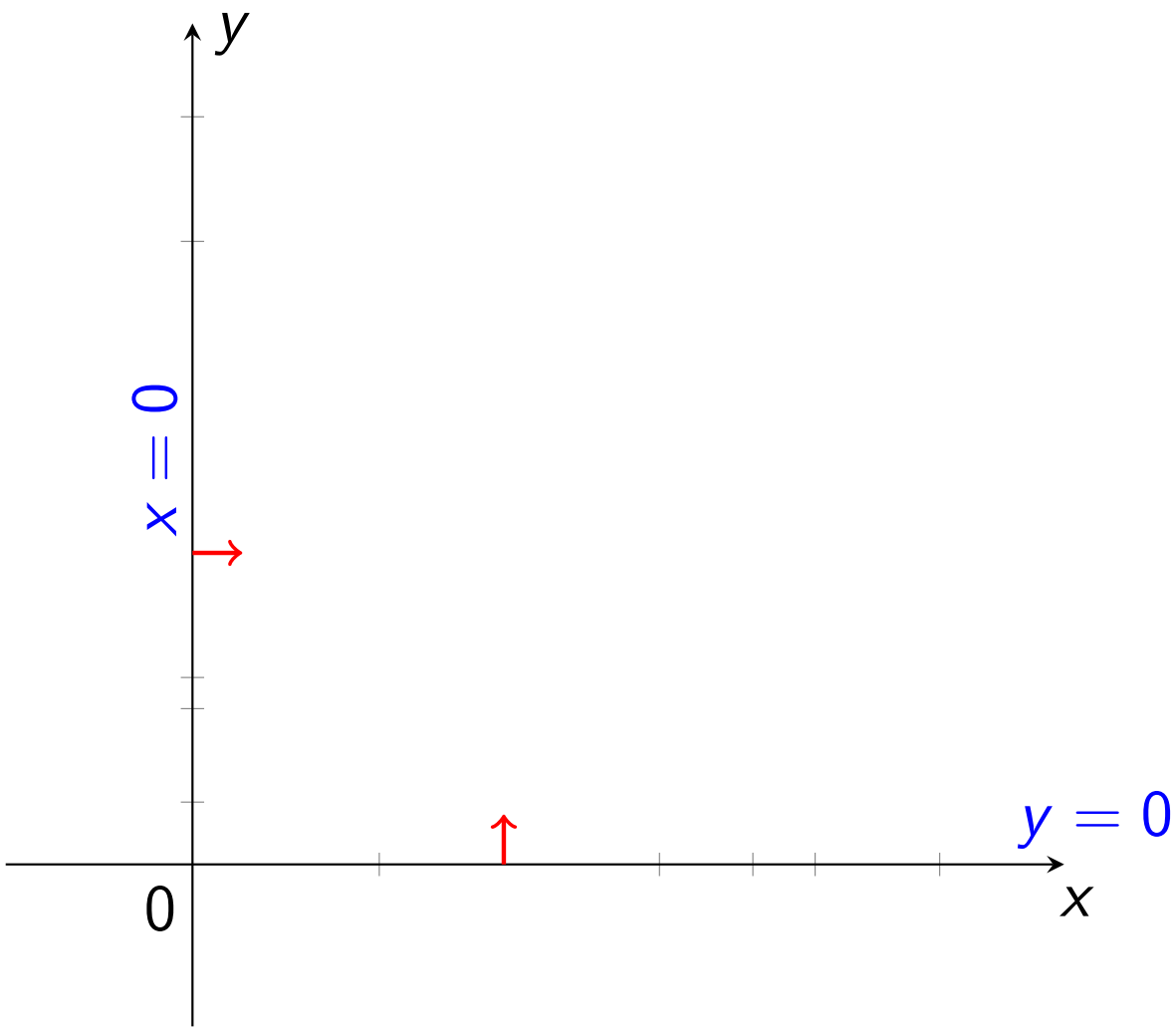


$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$



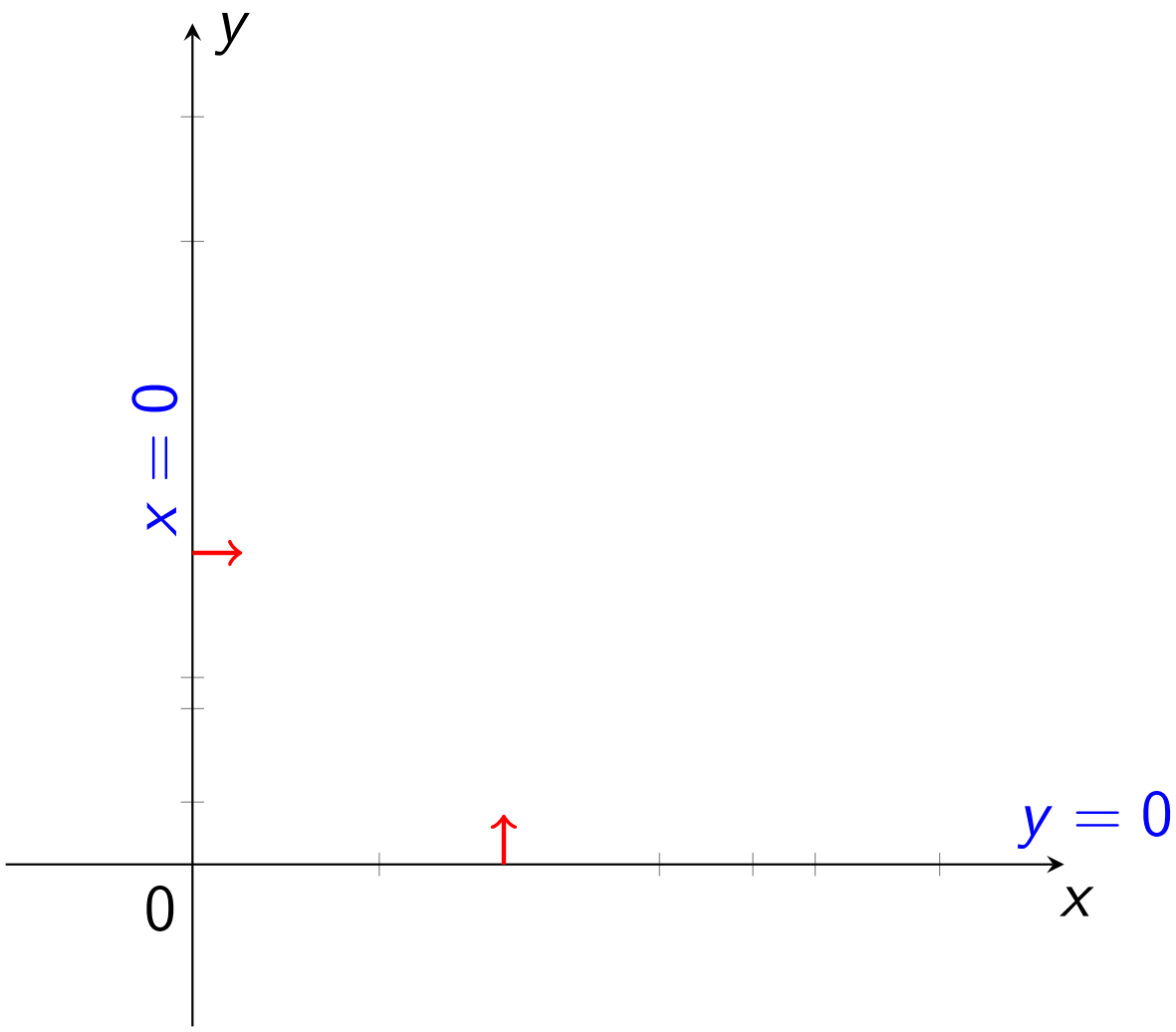
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$





$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

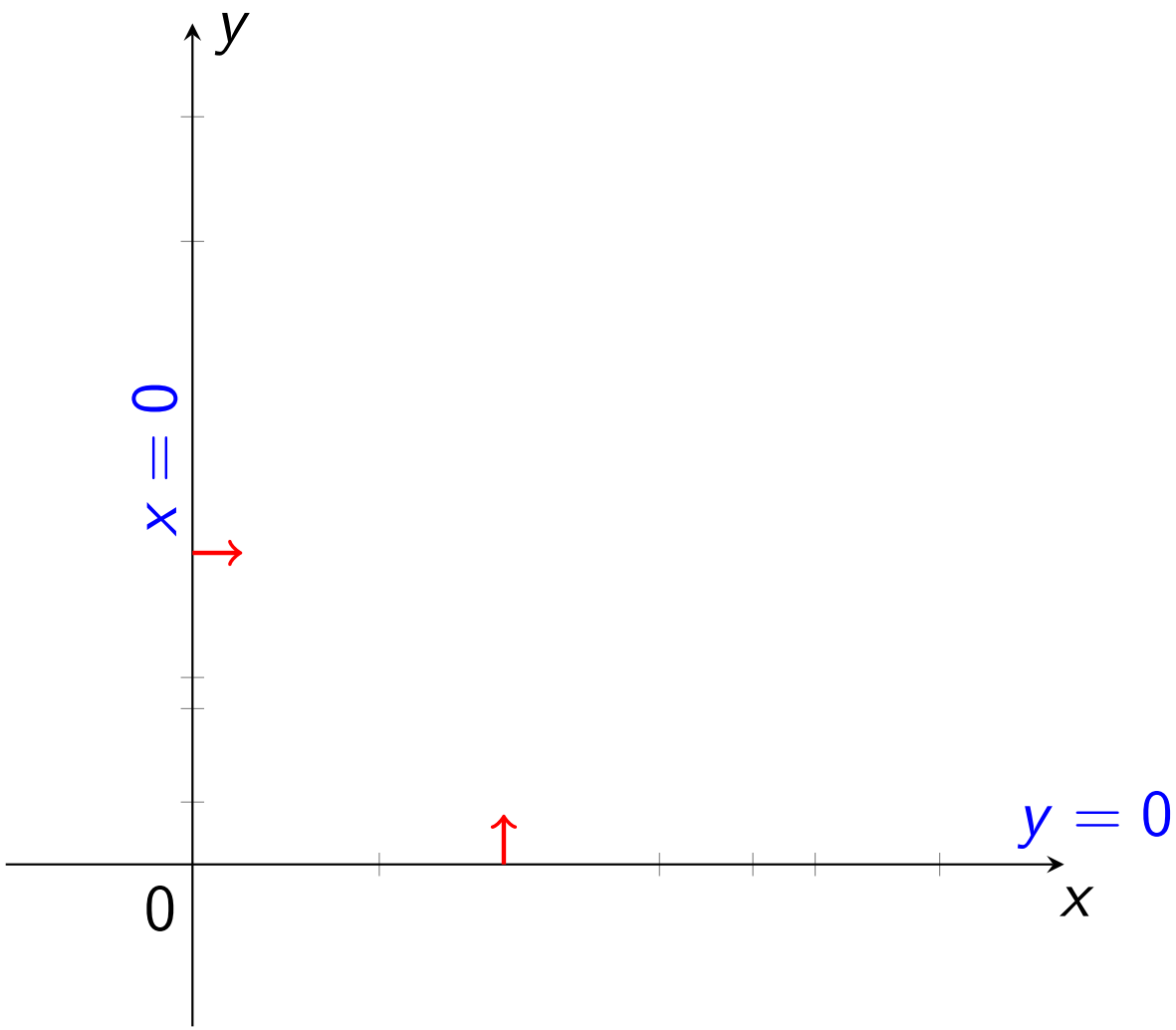
$x + y = 12$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

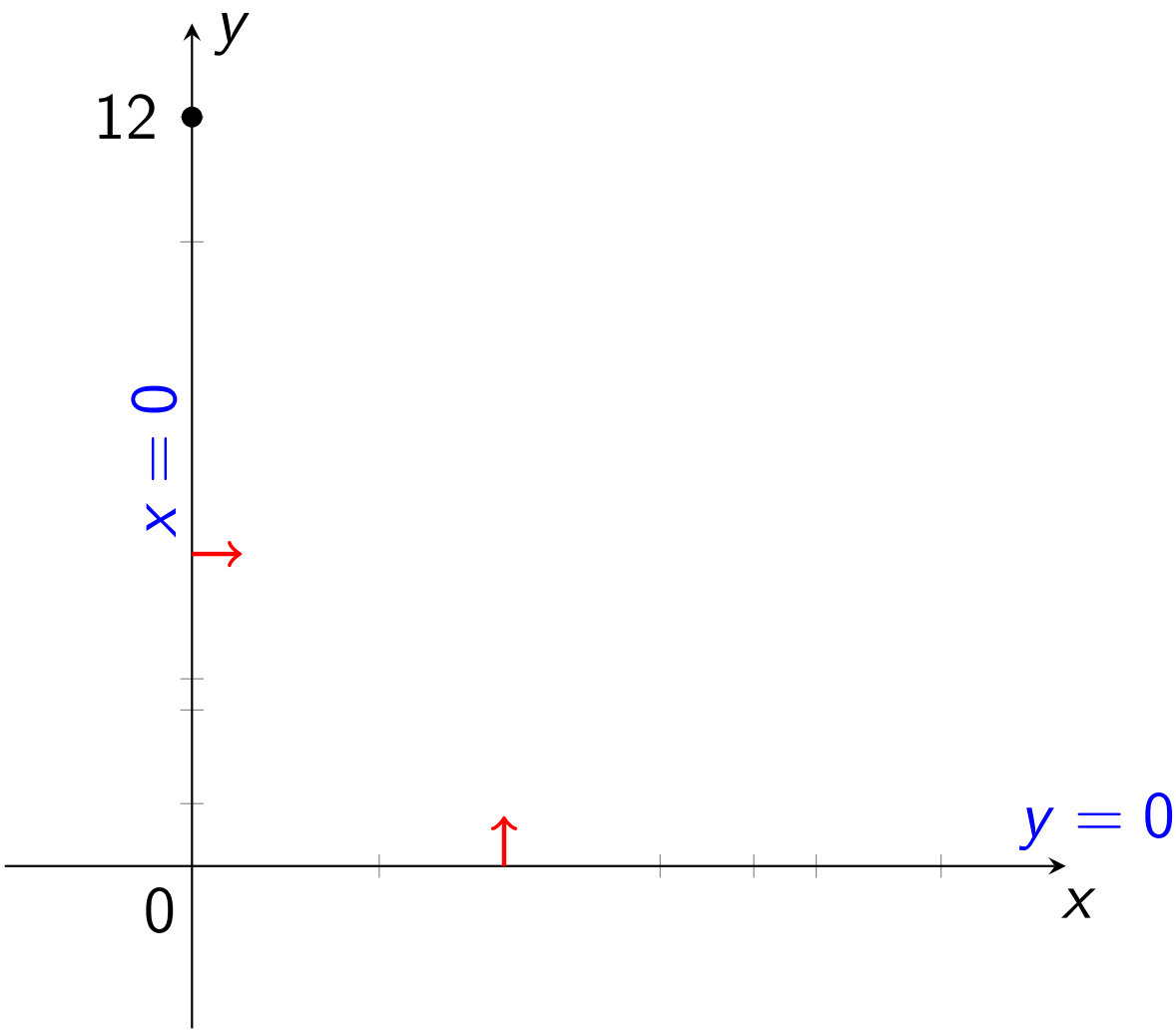
$x + y = 12$

$x = 0$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

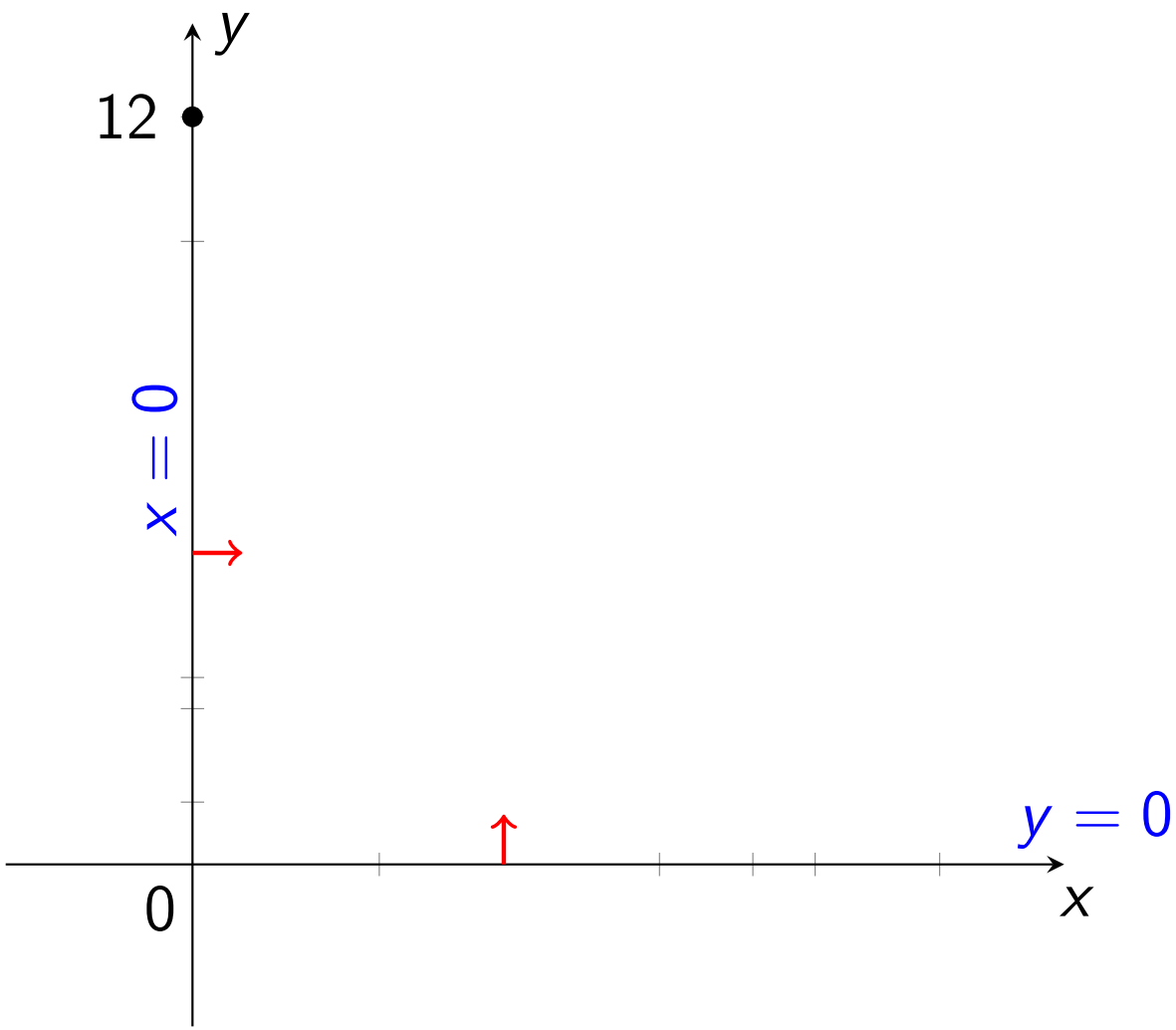
$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

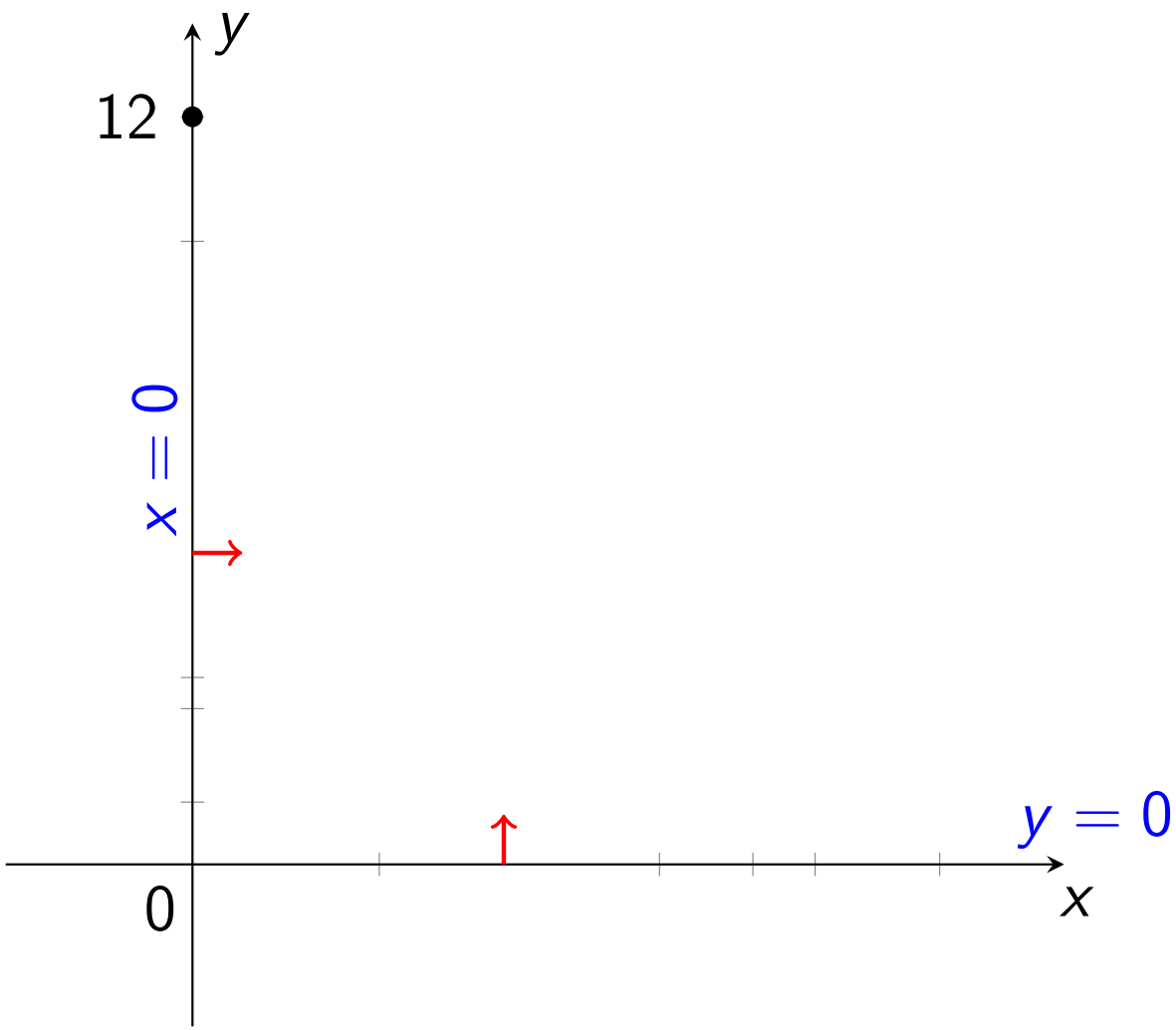
$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$



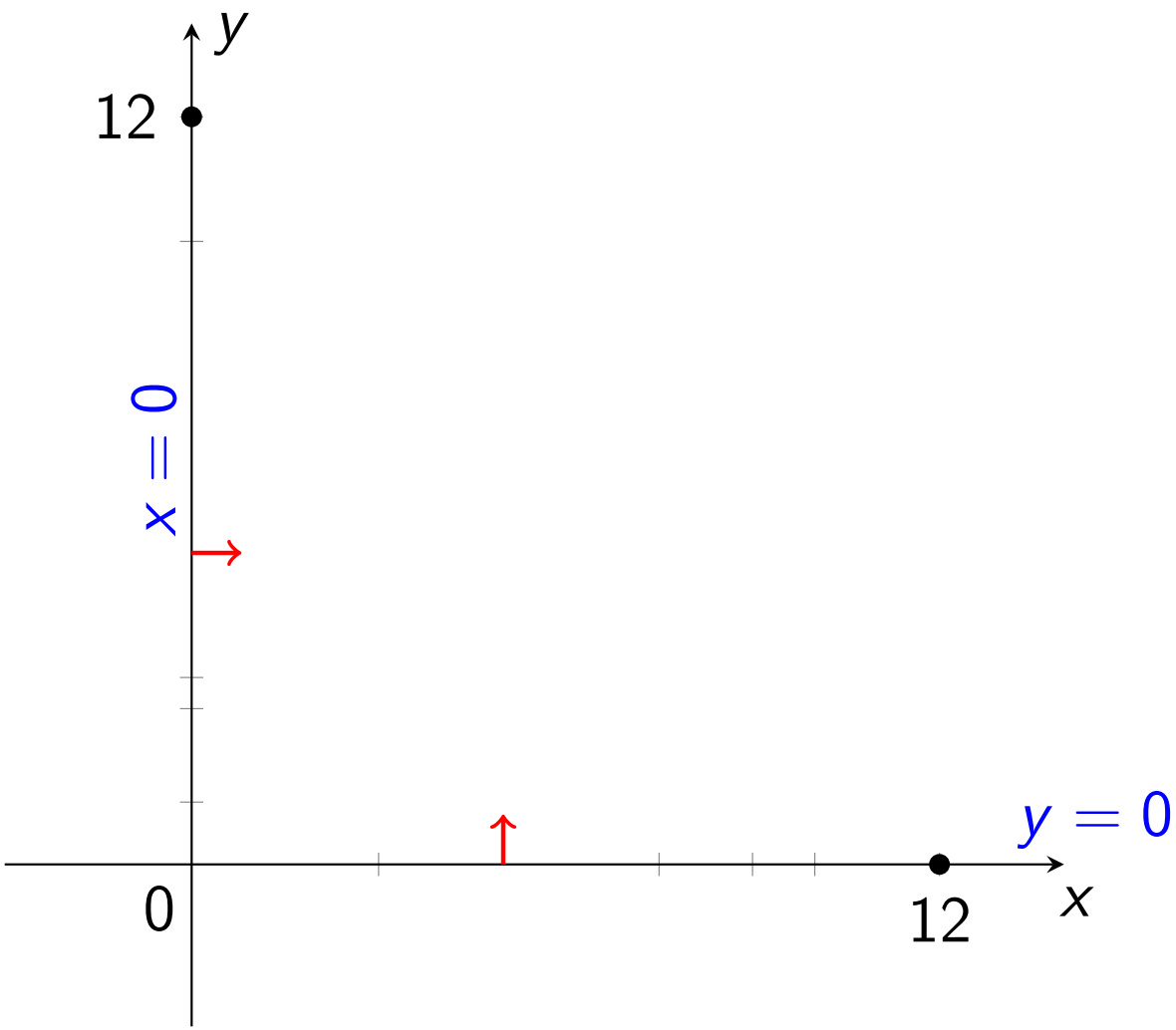
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0$$



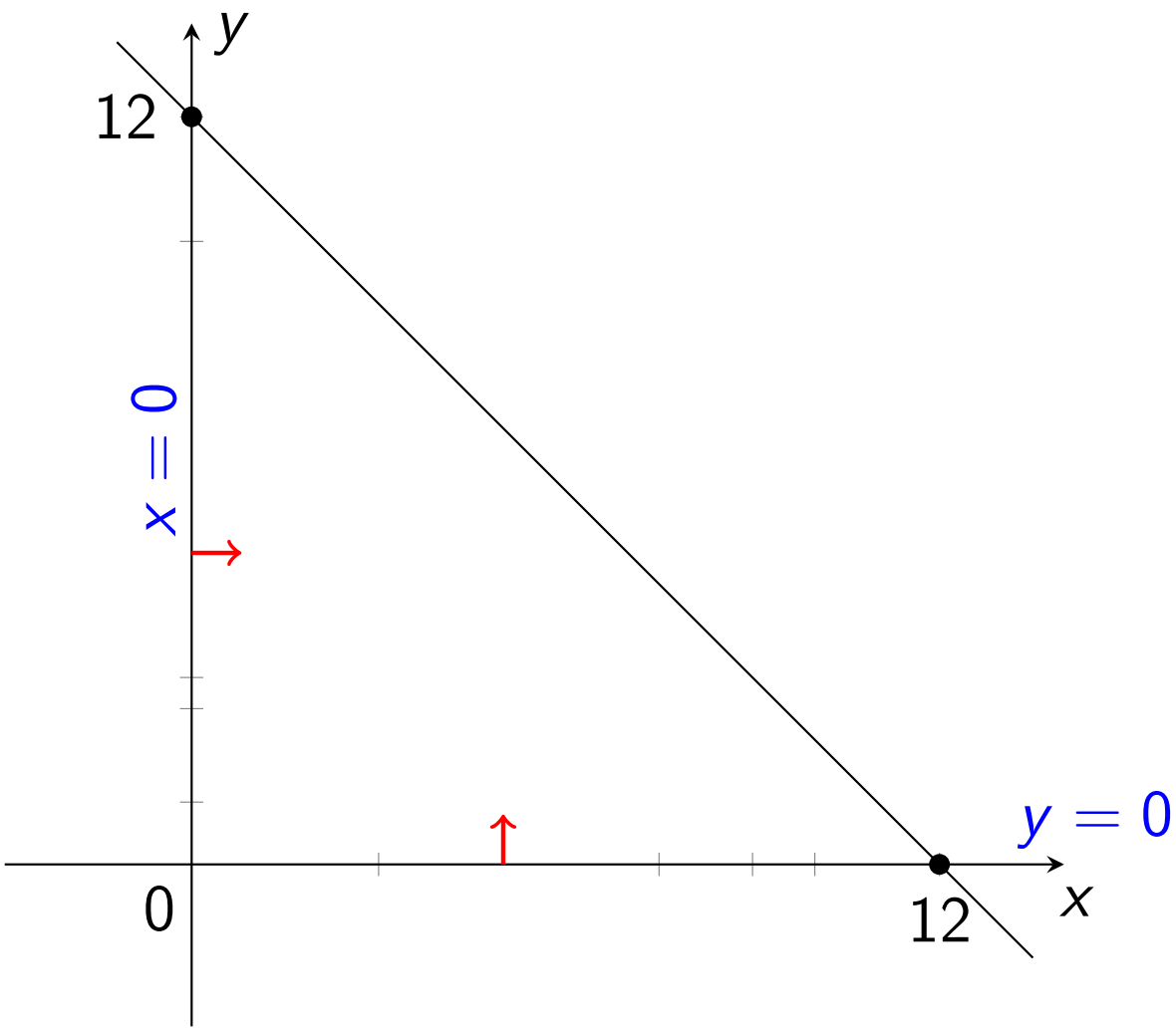
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$



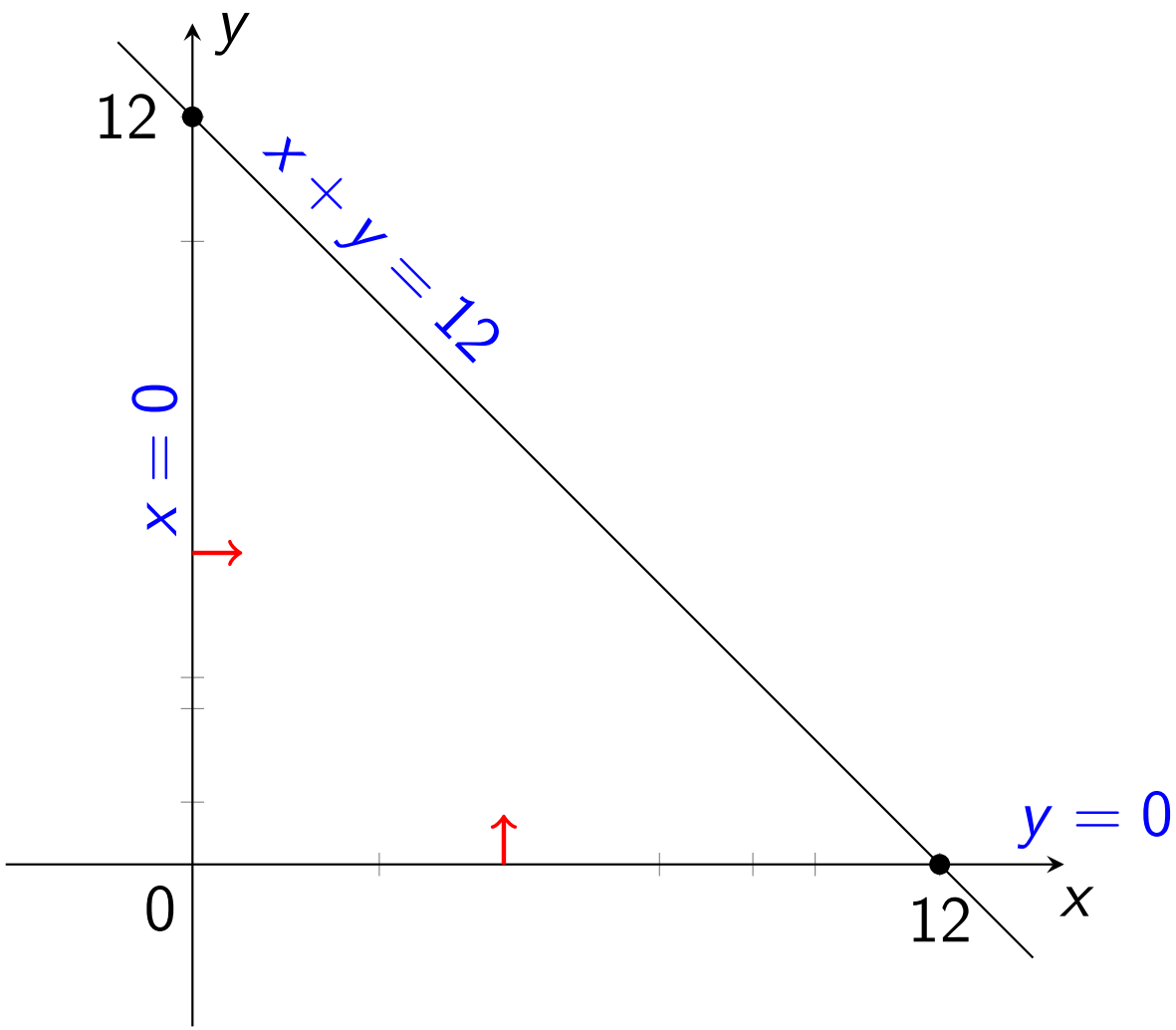
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$



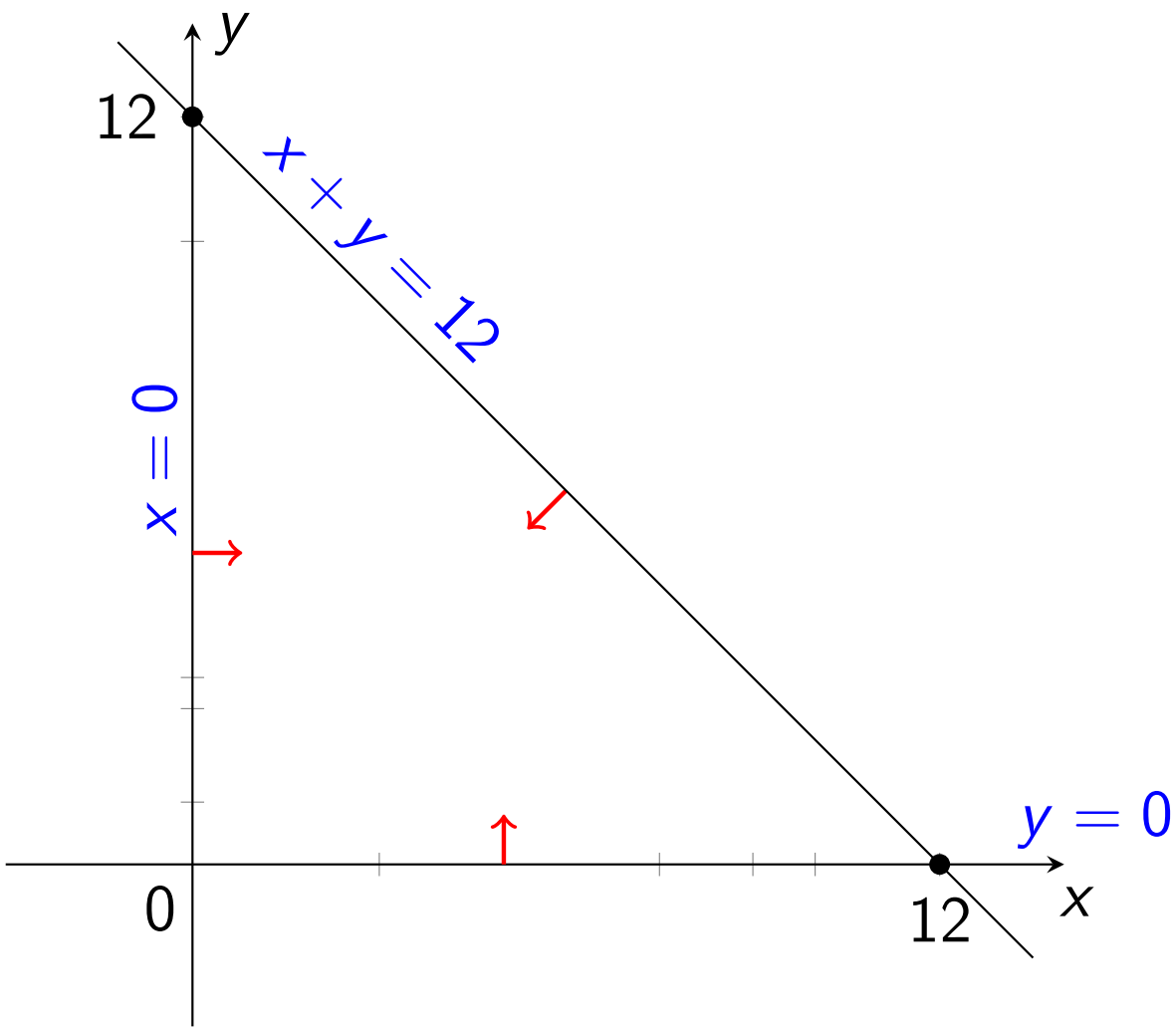
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$



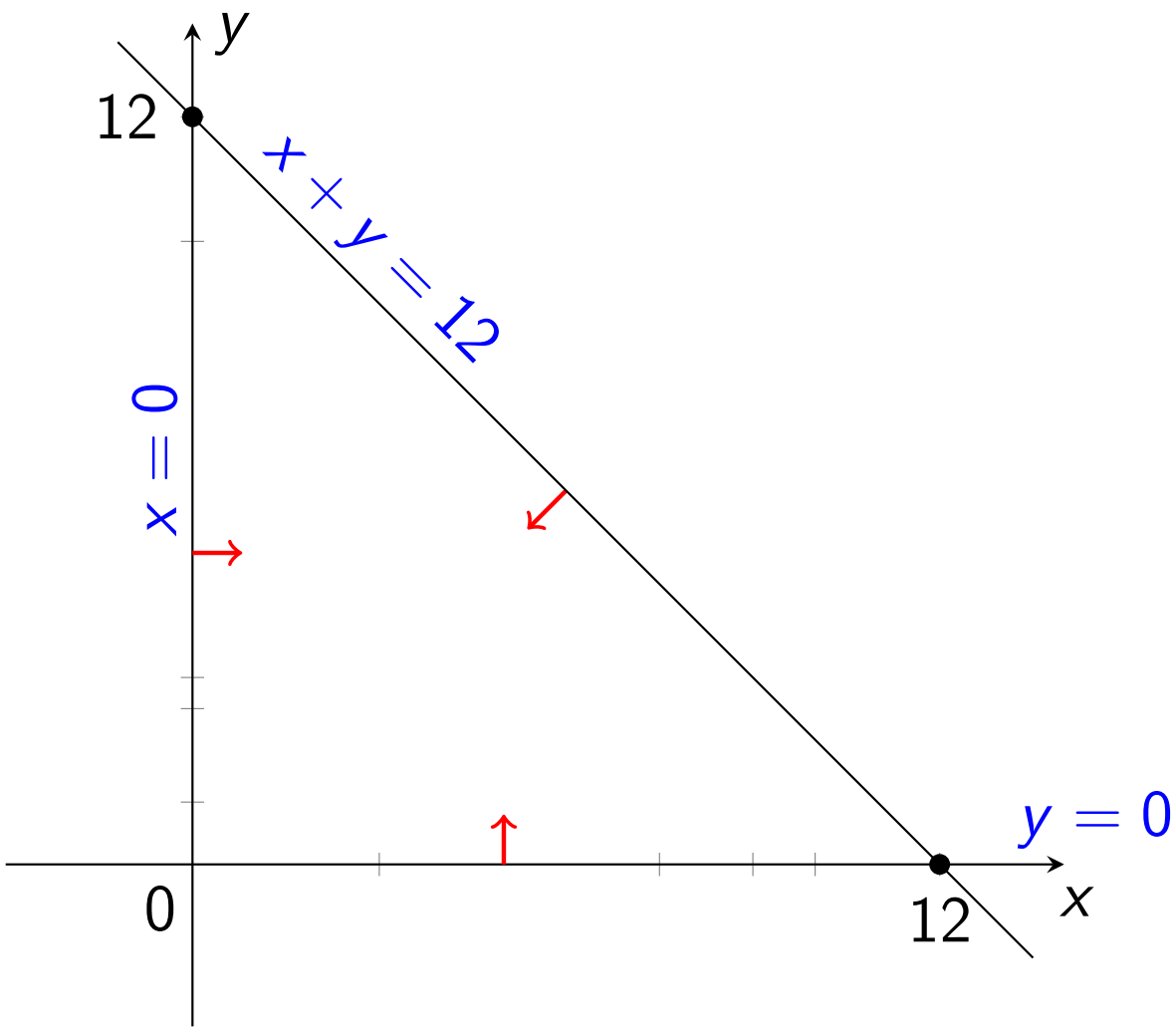
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

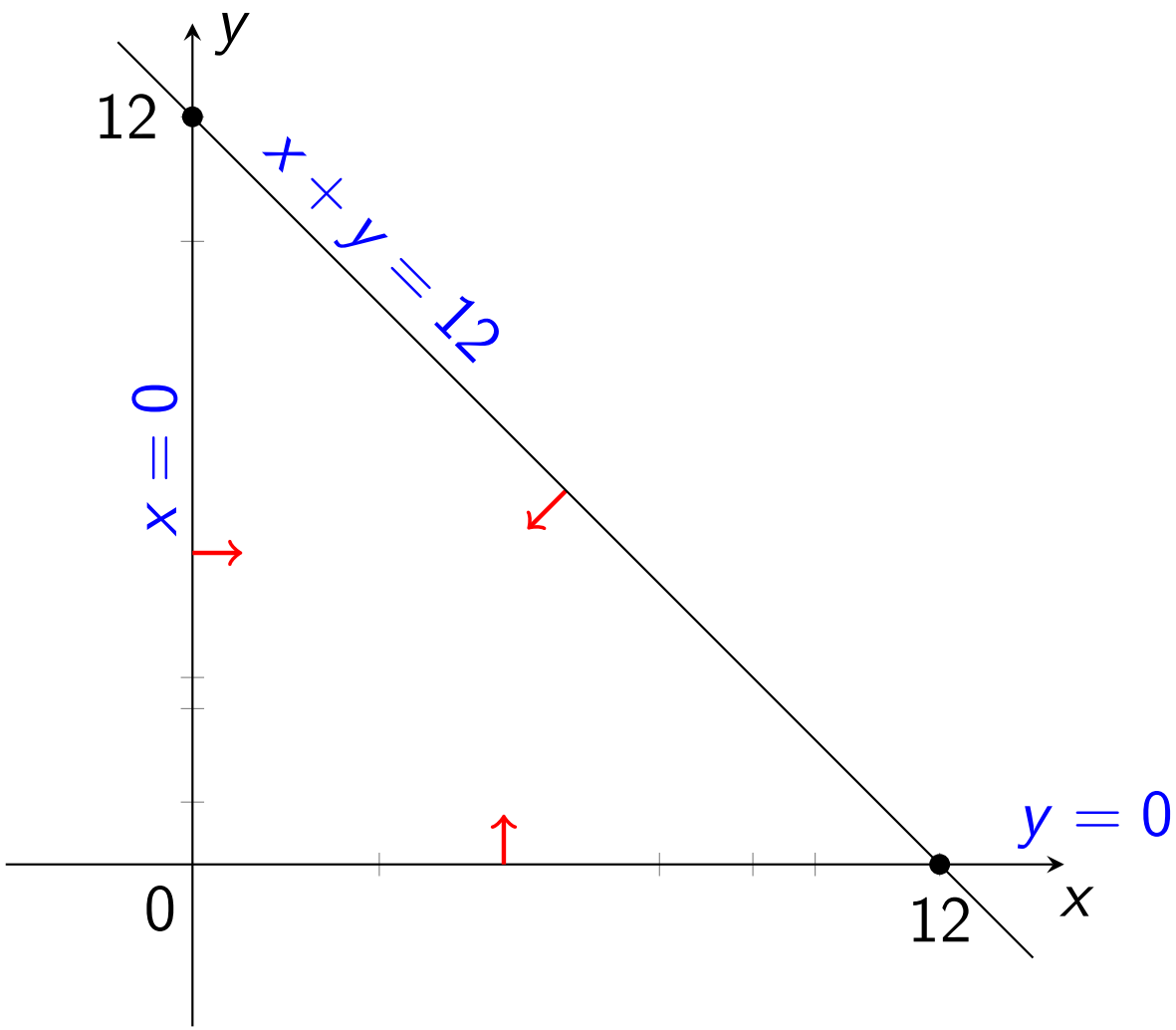
$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

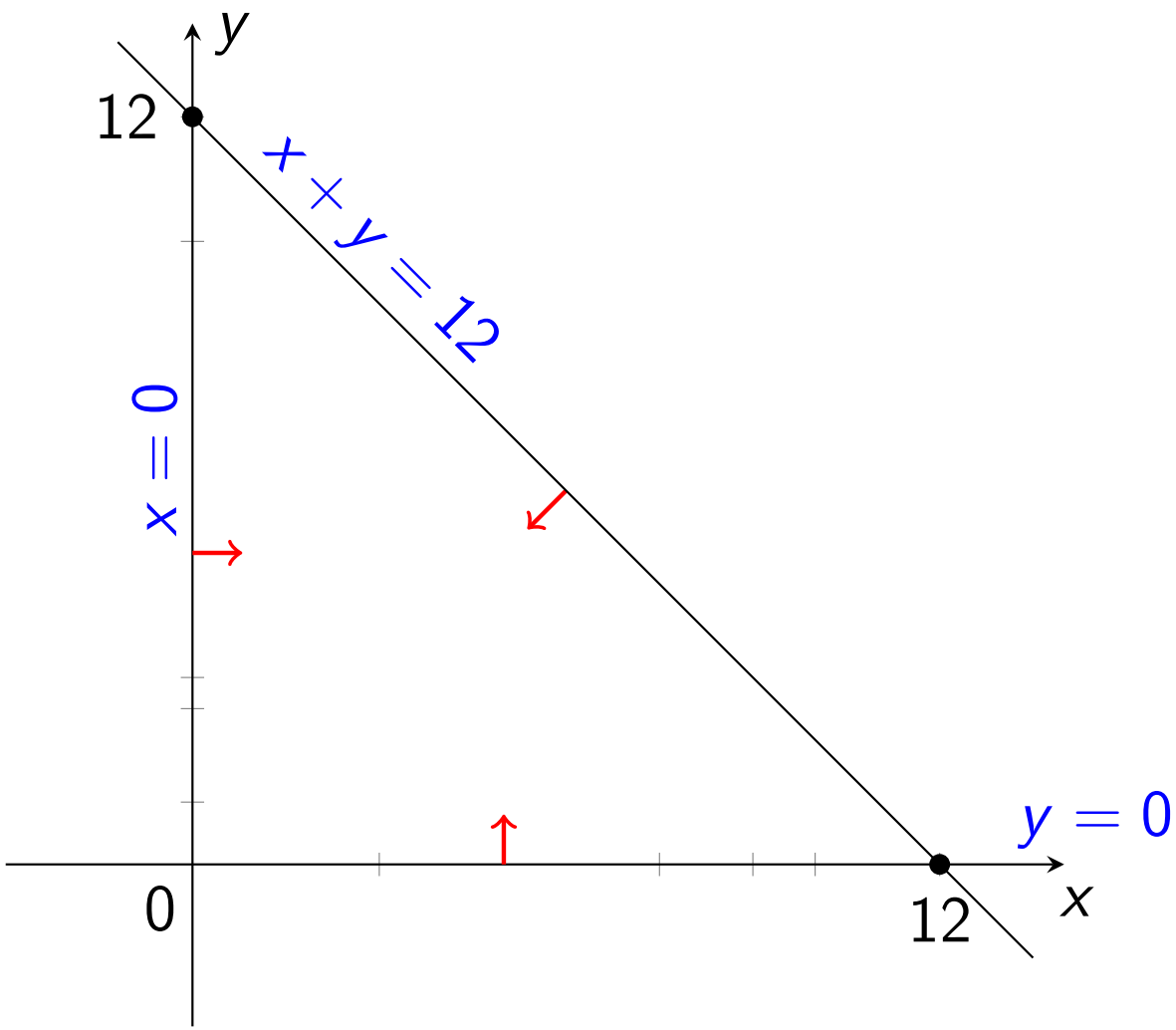
$$x + y = 10$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

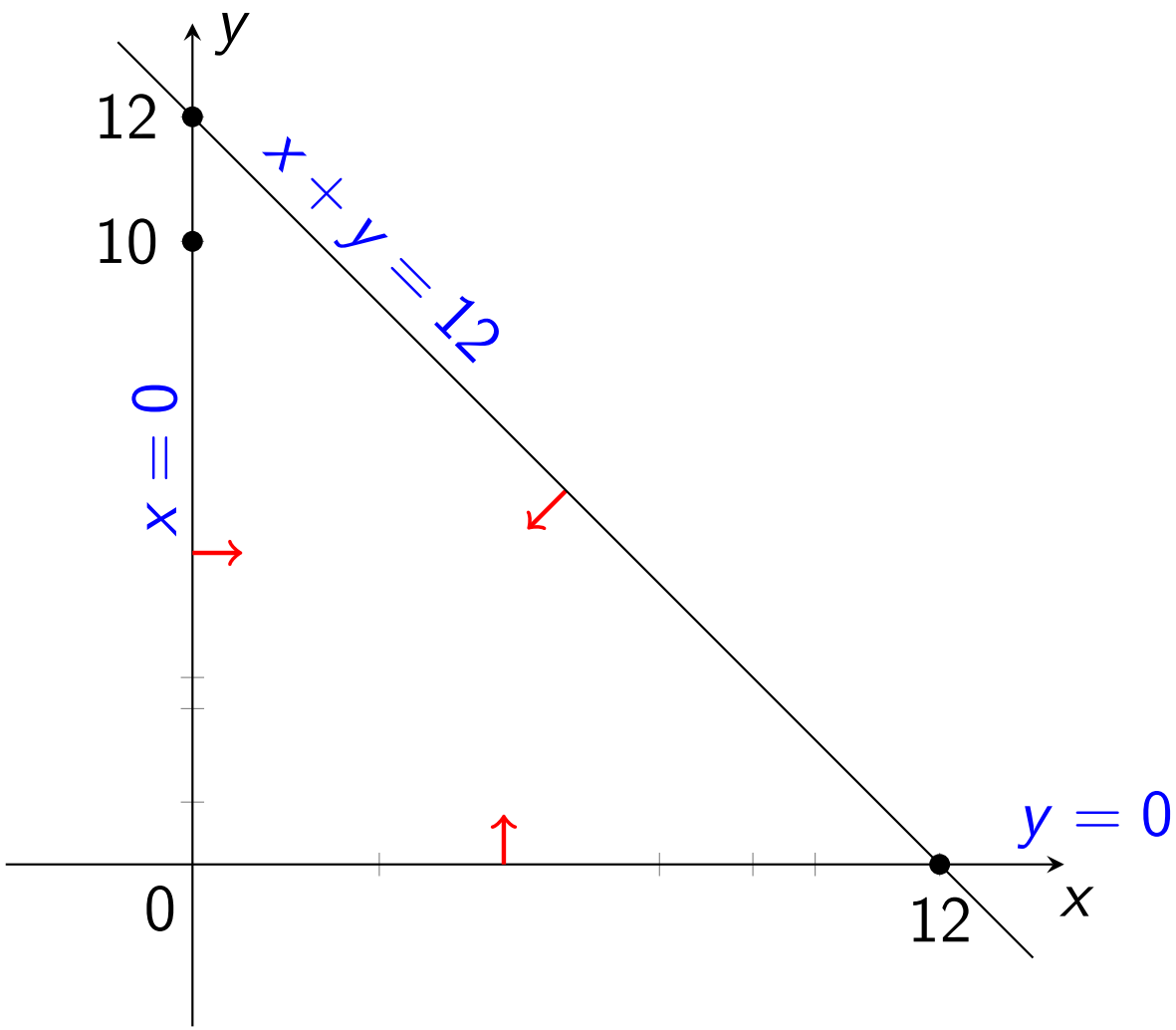
$$x + y = 10$$
$$x = 0$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

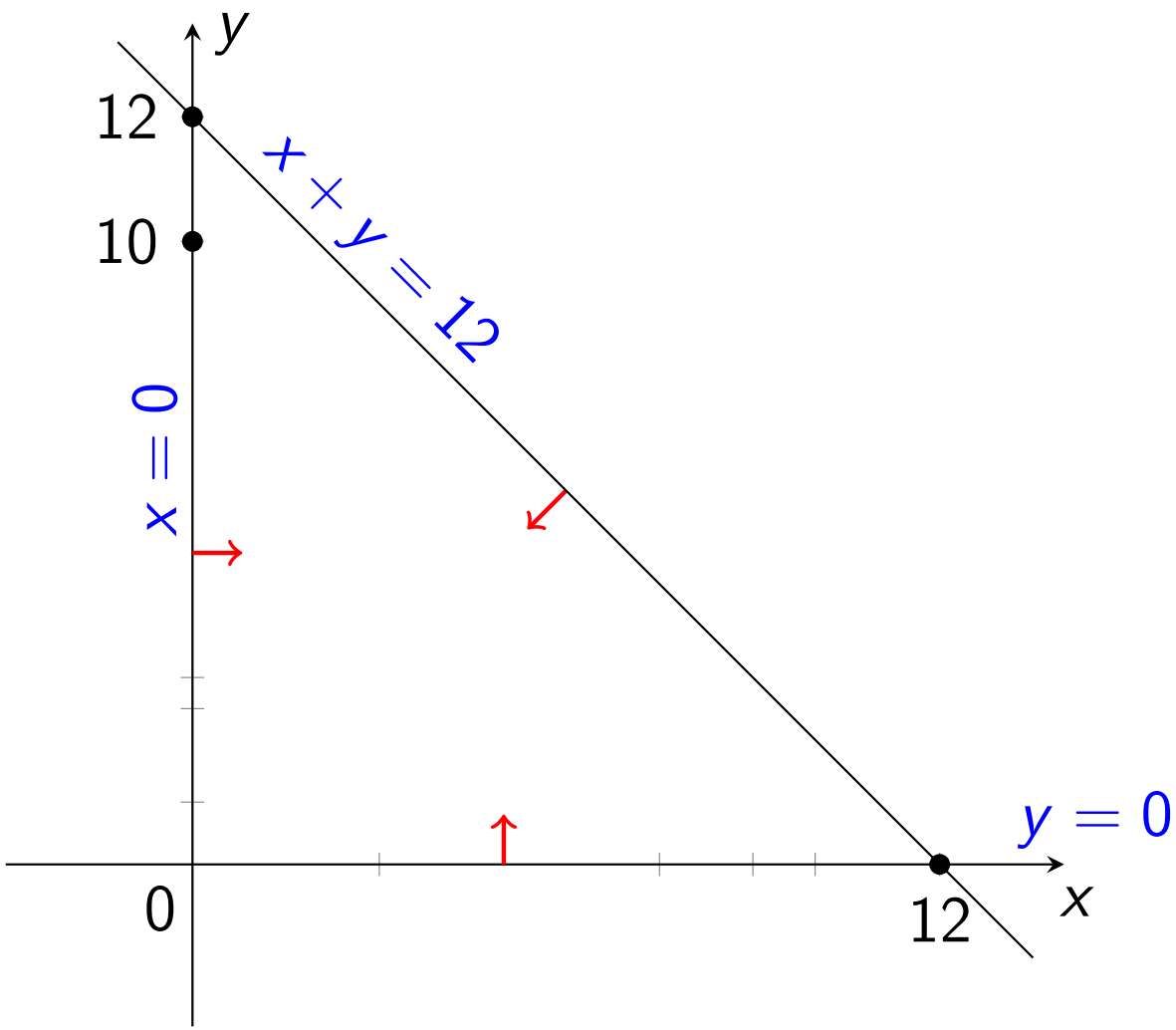
$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

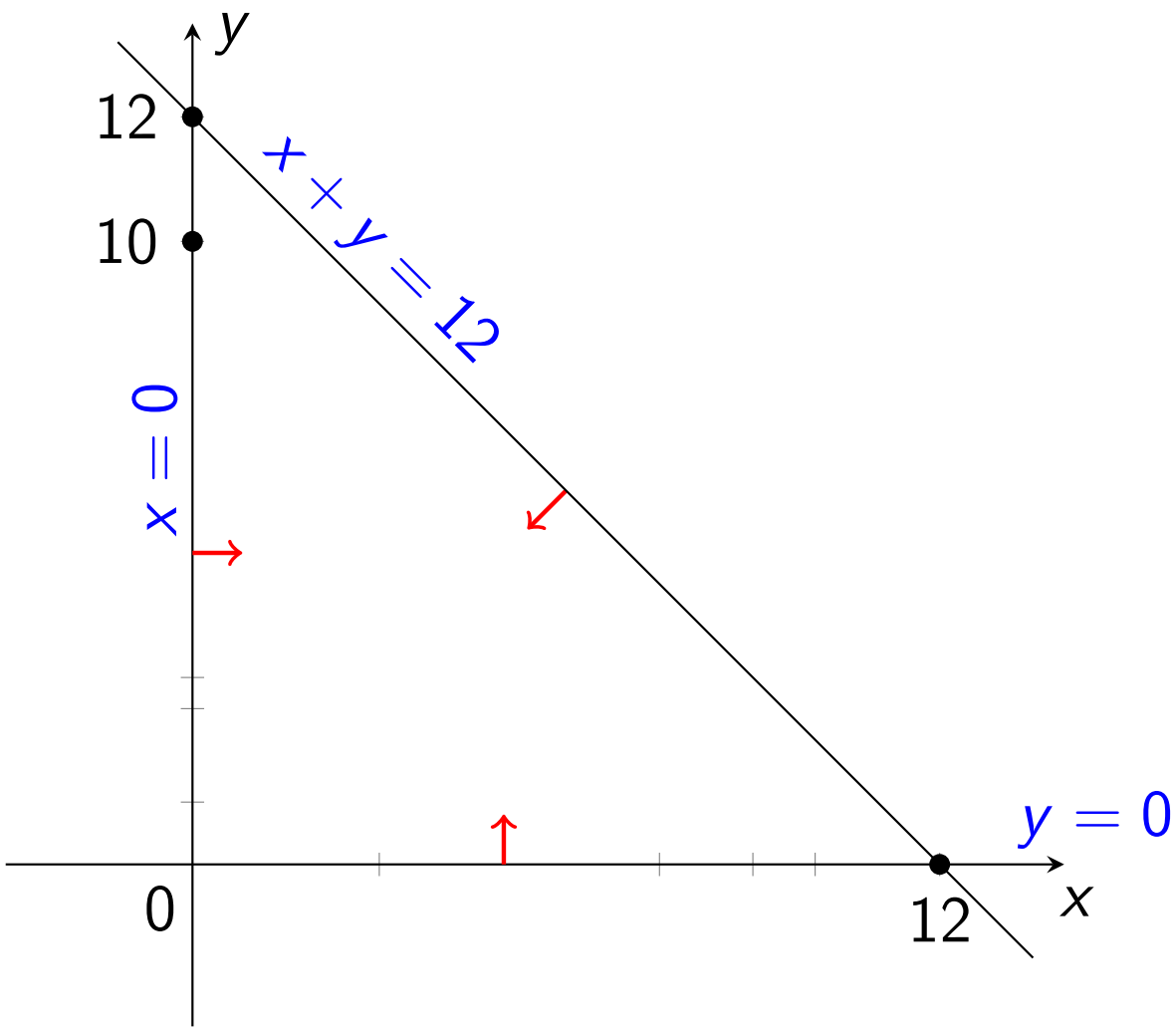
$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

$$y = 0$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

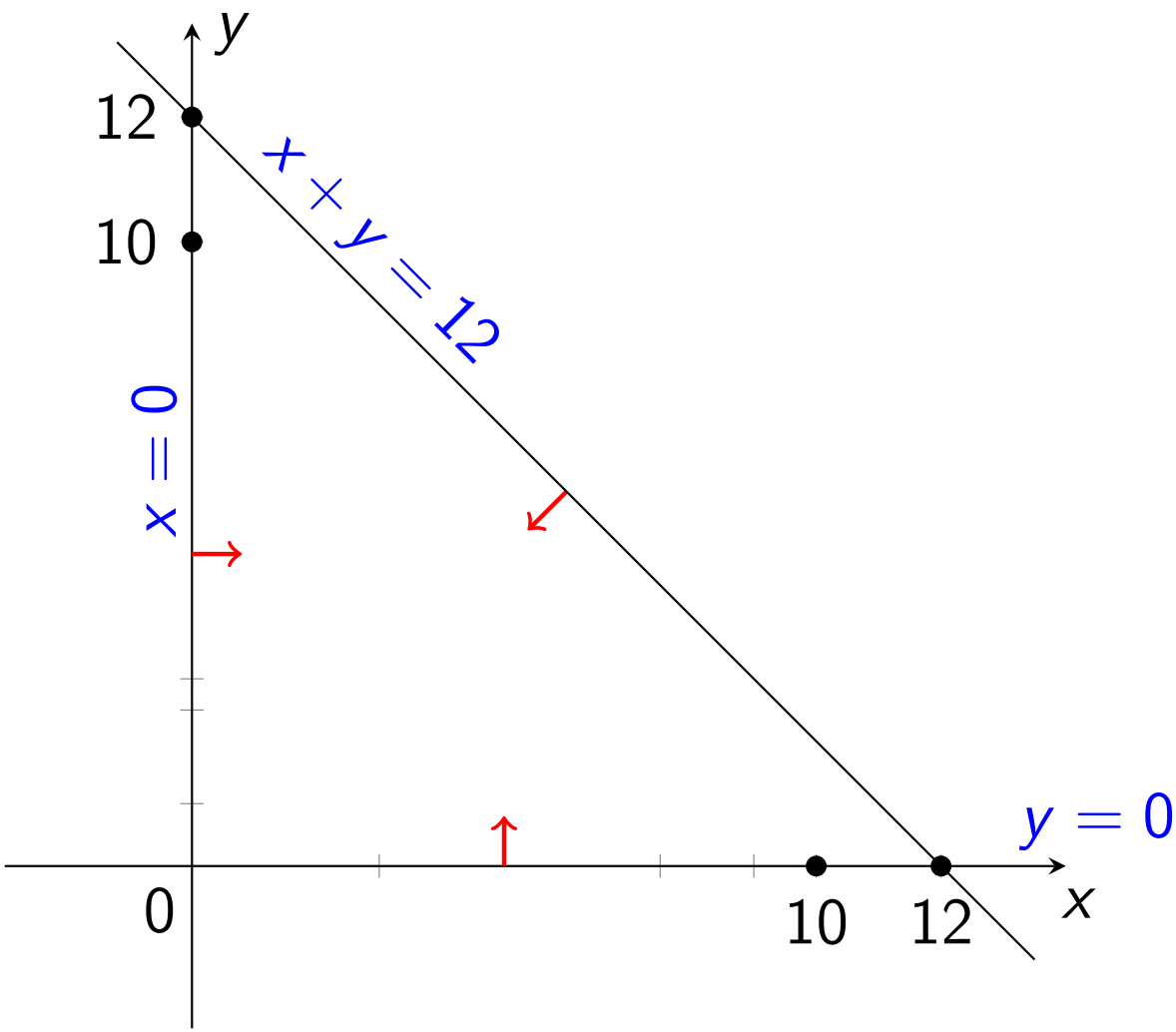
$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$



$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x+y &\leqslant 12 \\ x+y &\geqslant 10 \\ x-3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

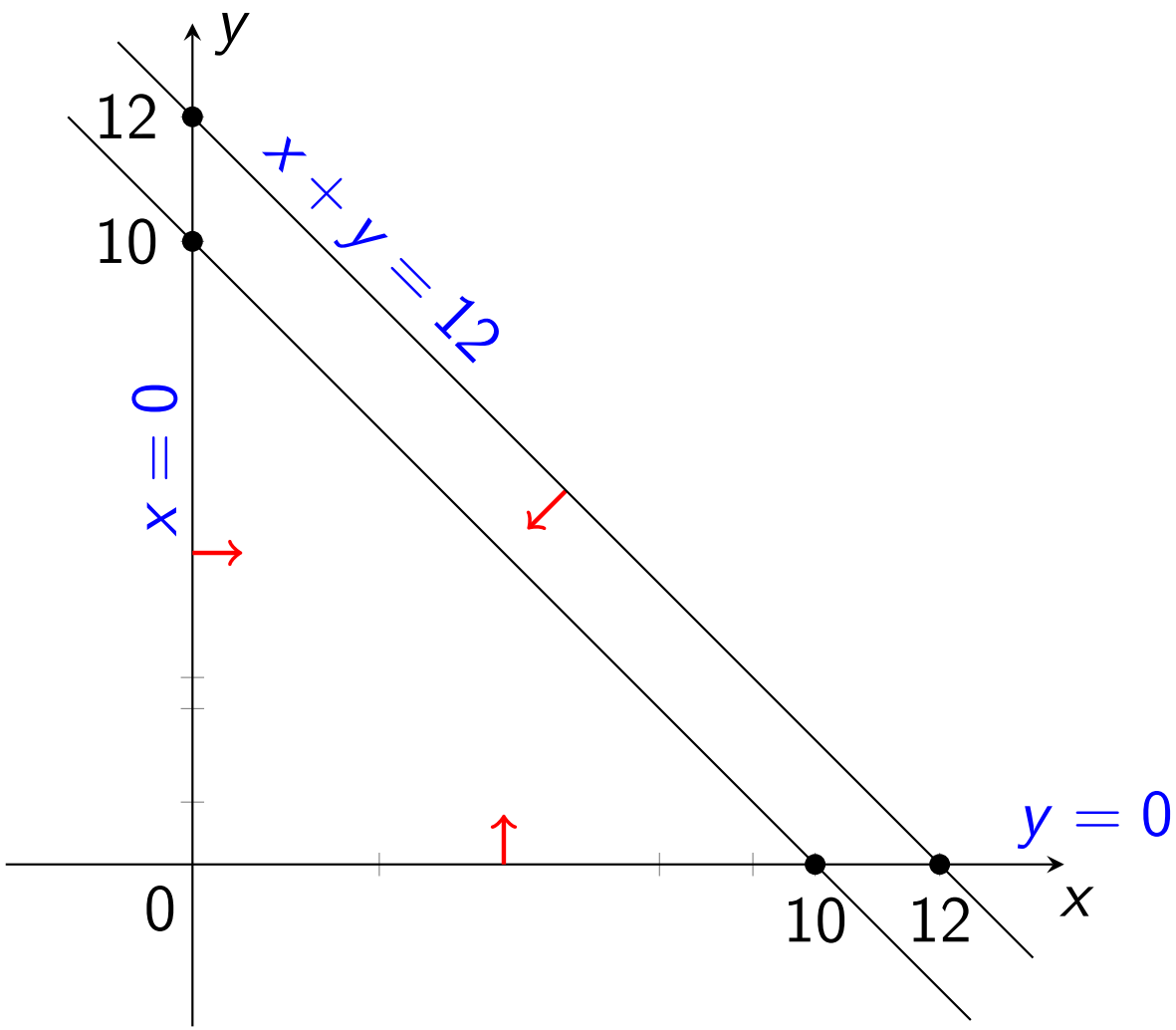
$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$



$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x+y &\leqslant 12 \\ x+y &\geqslant 10 \\ x-3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

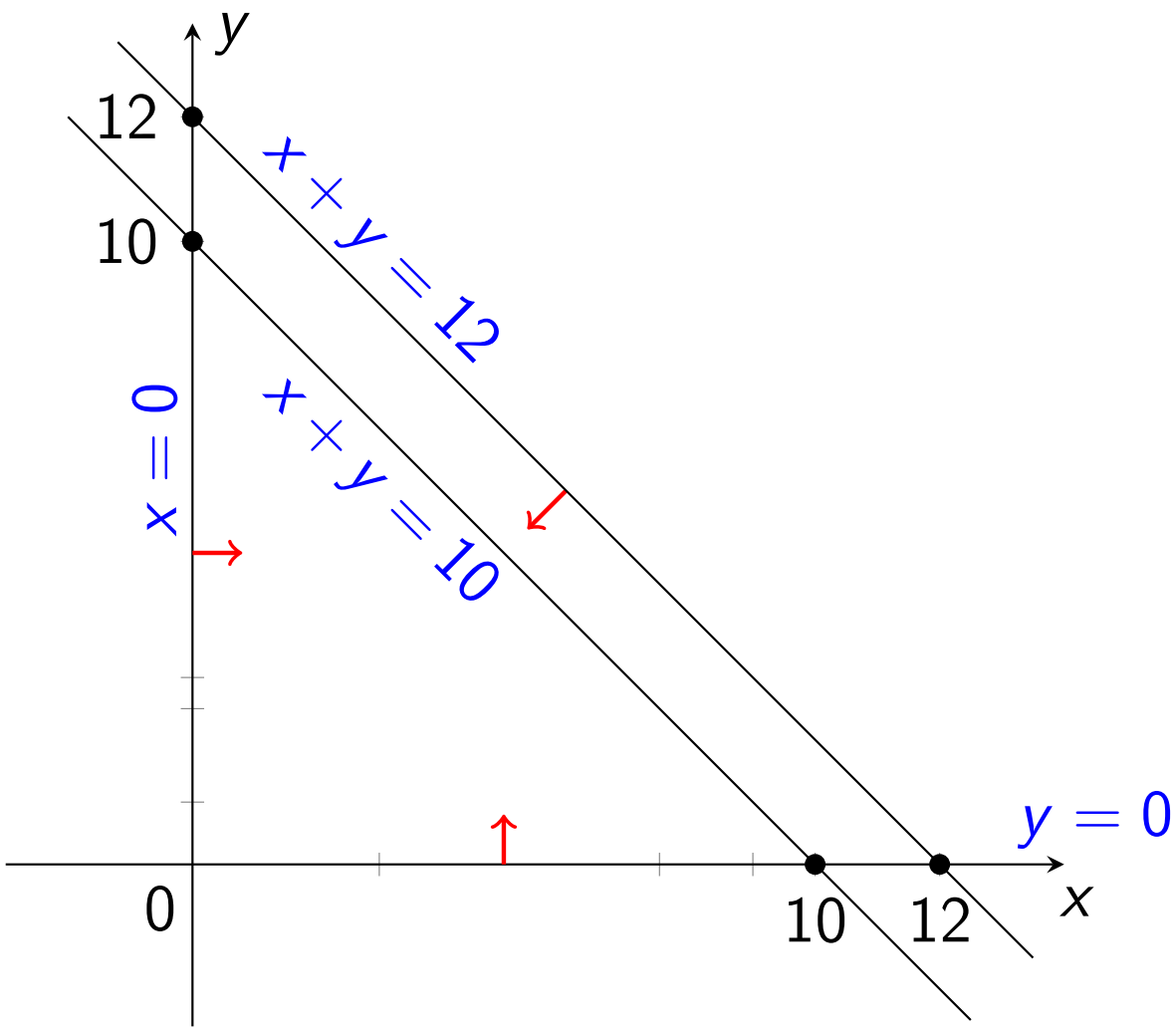
$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

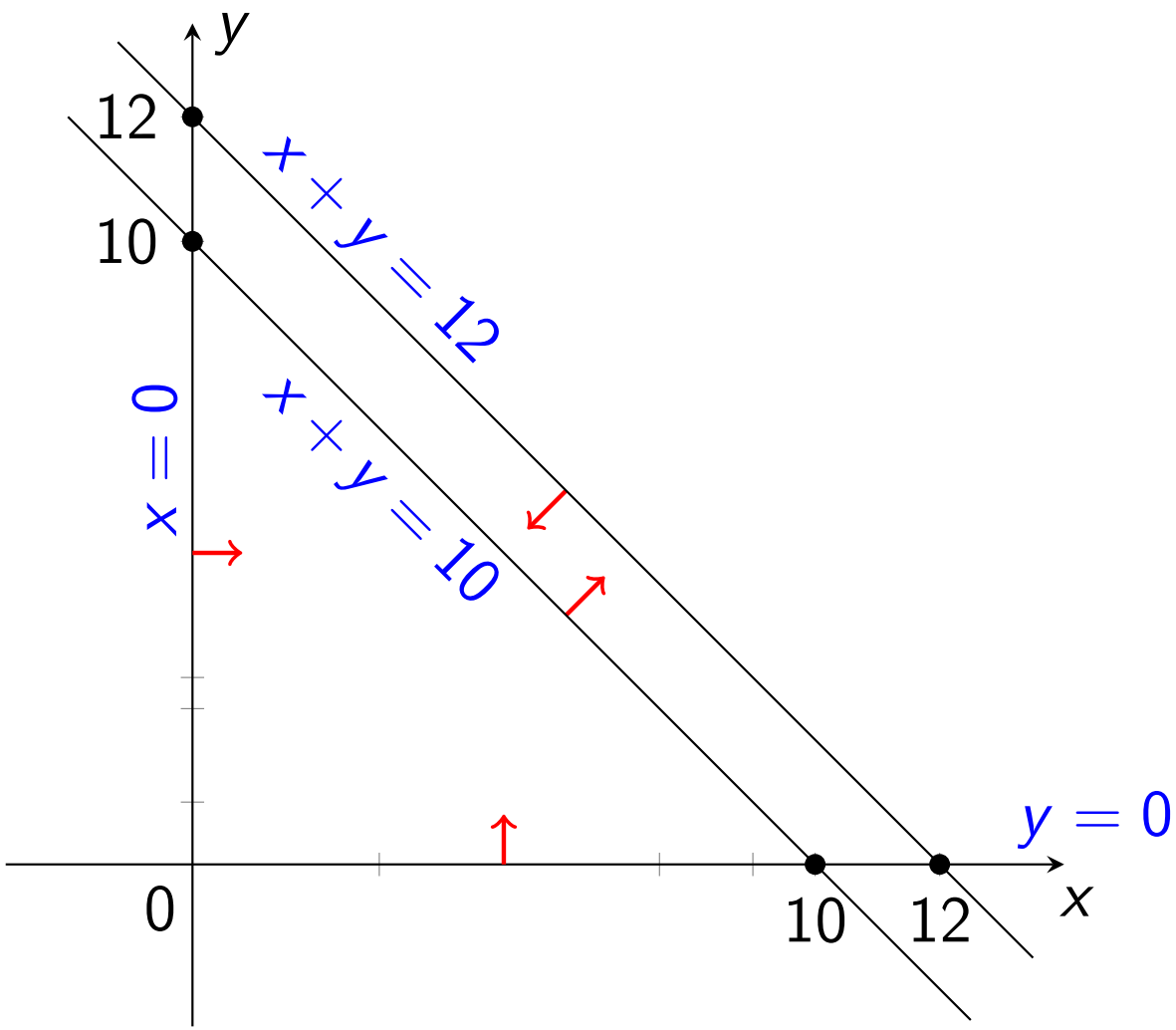
$$y = 0 \rightsquigarrow x = 10$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

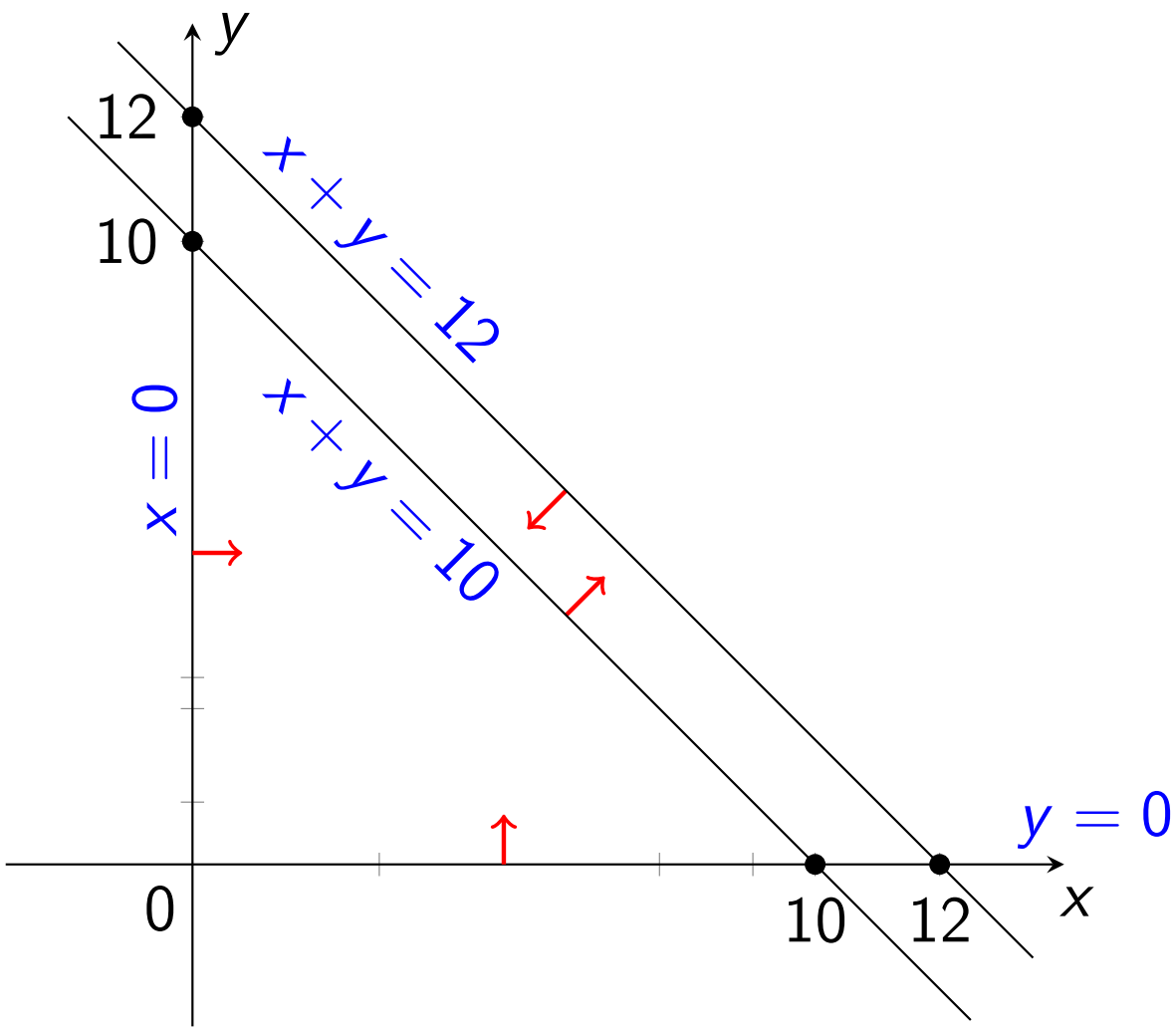
$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

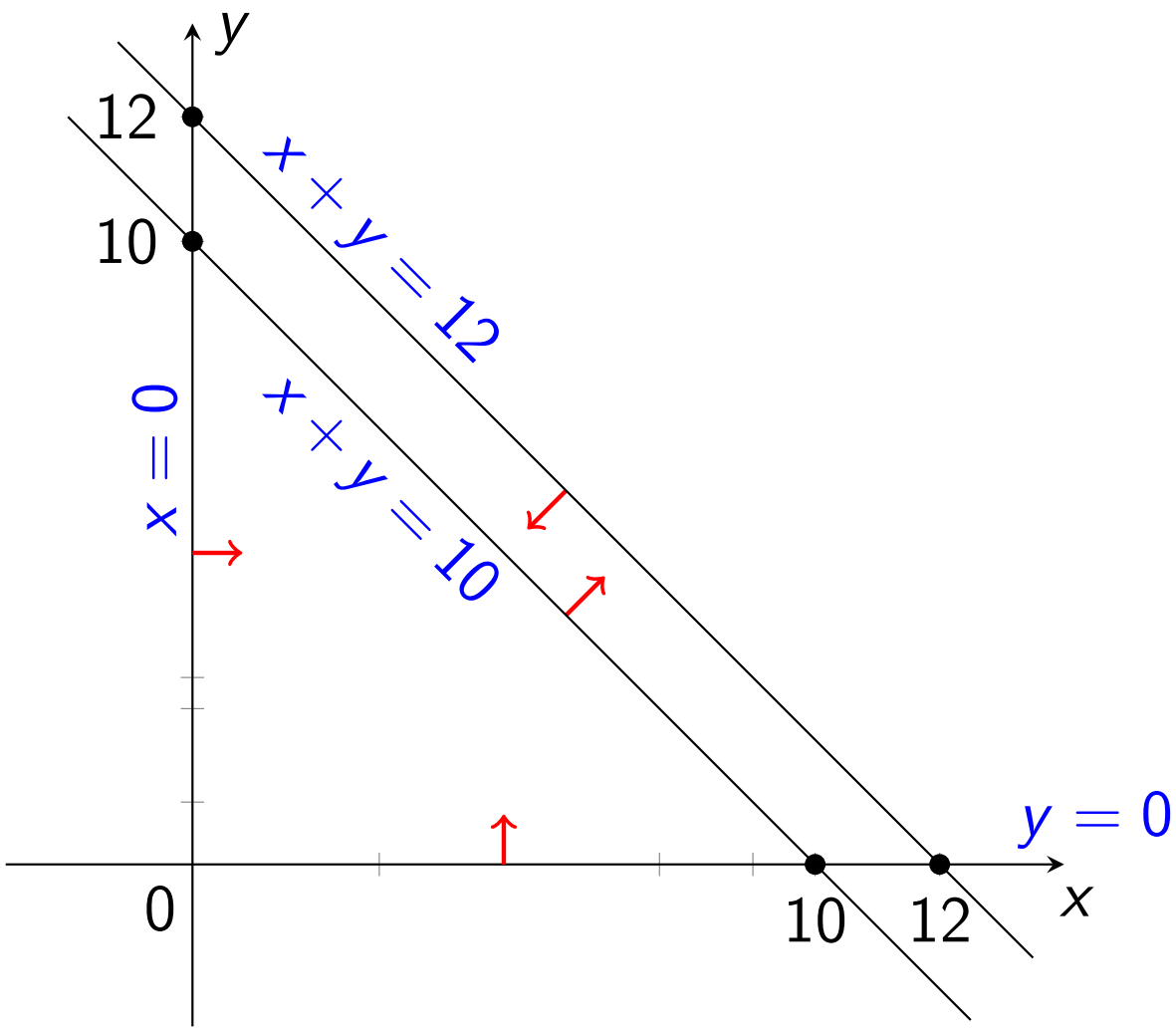


$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

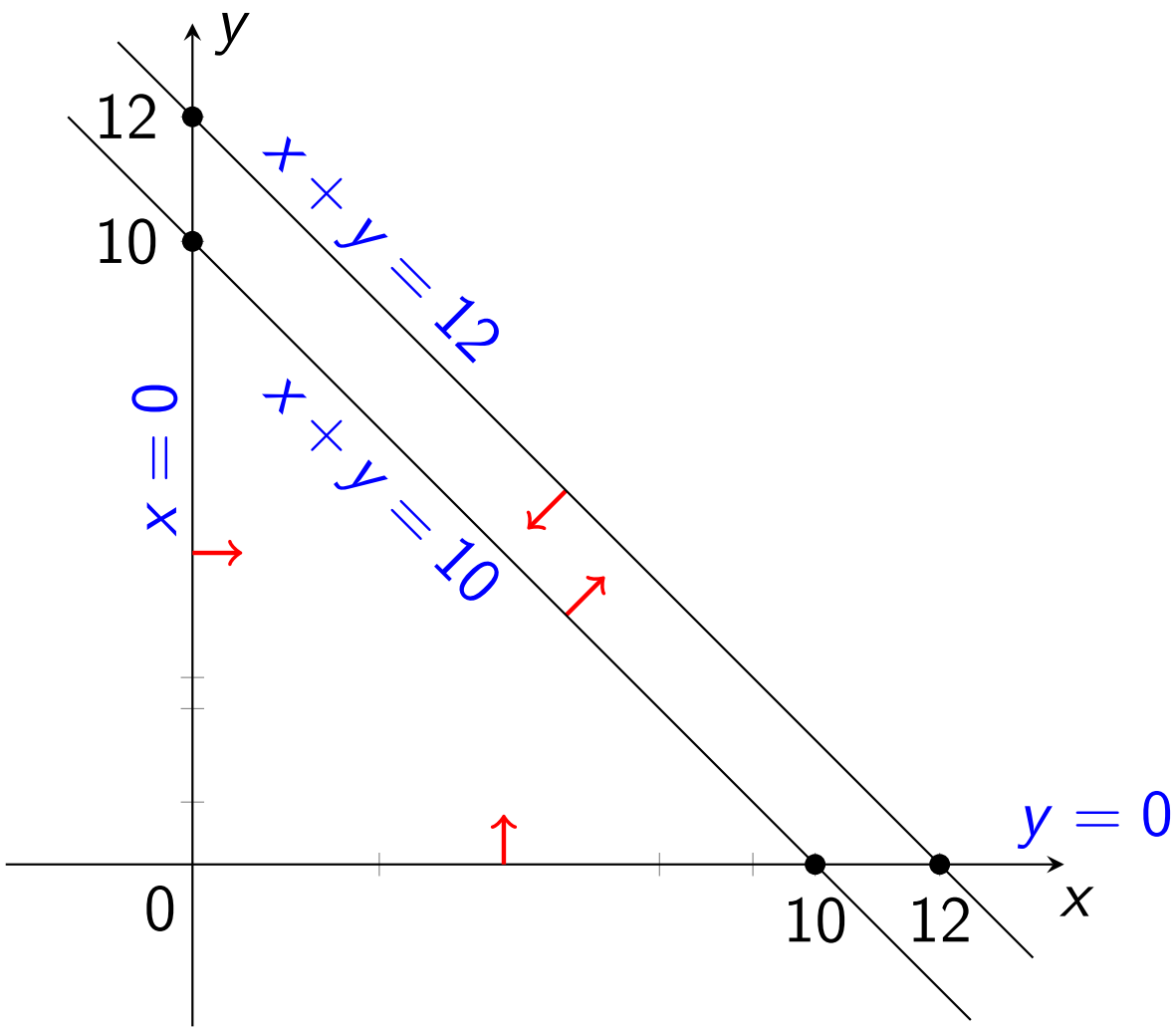


$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0$$



$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x+y &\leqslant 12 \\ x+y &\geqslant 10 \\ x-3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

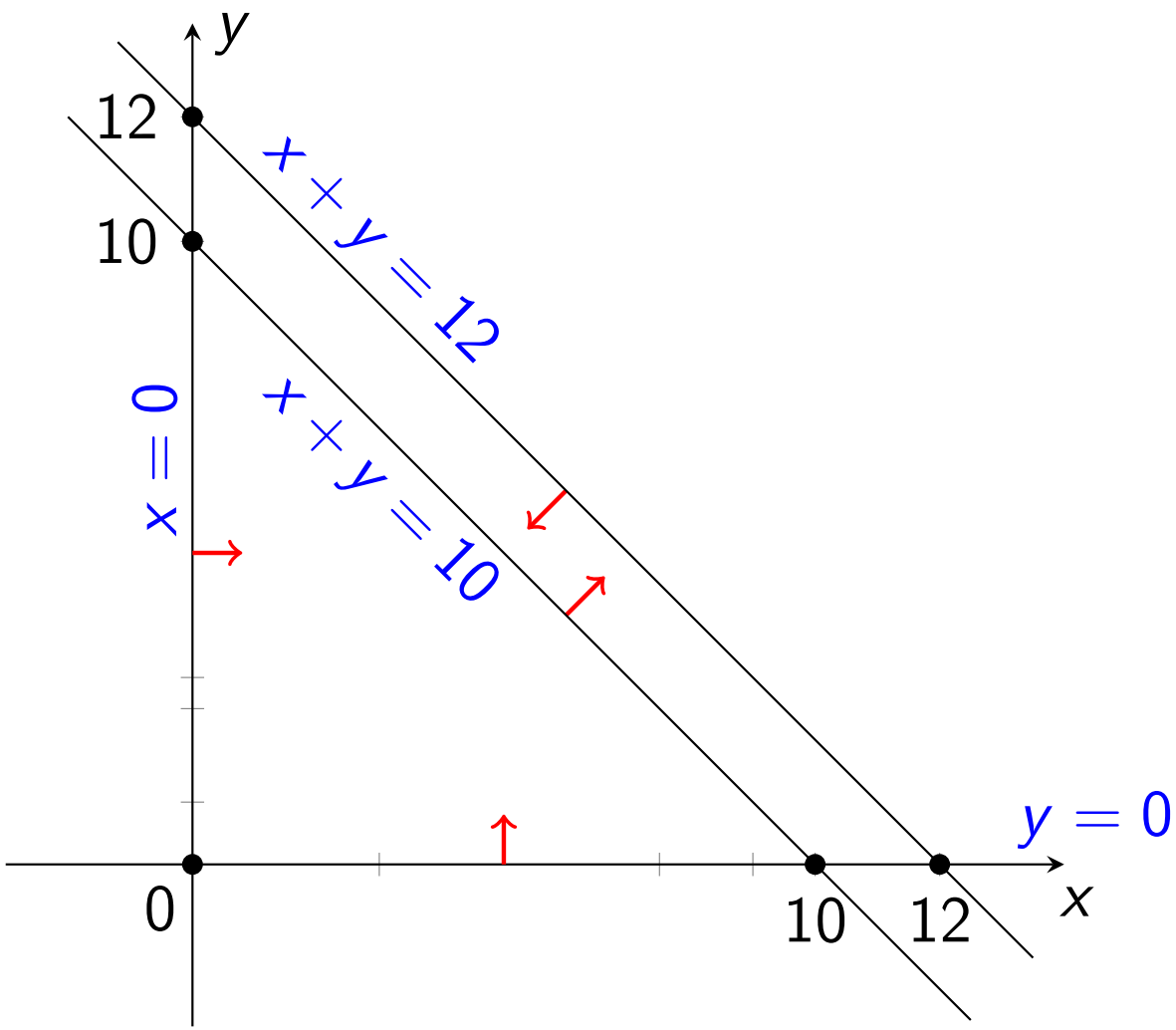
$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$



$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x+y &\leqslant 12 \\ x+y &\geqslant 10 \\ x-3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

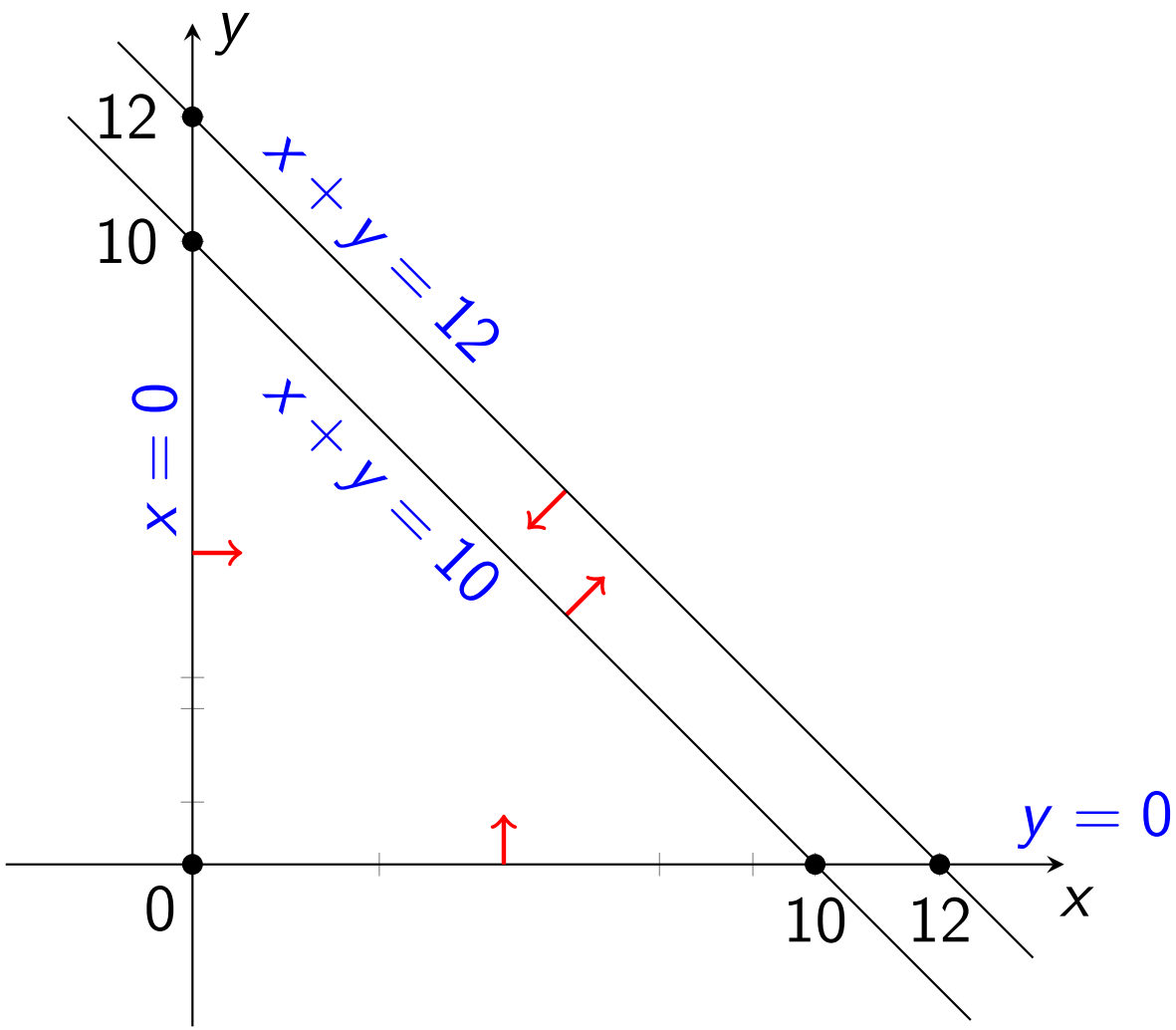
$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

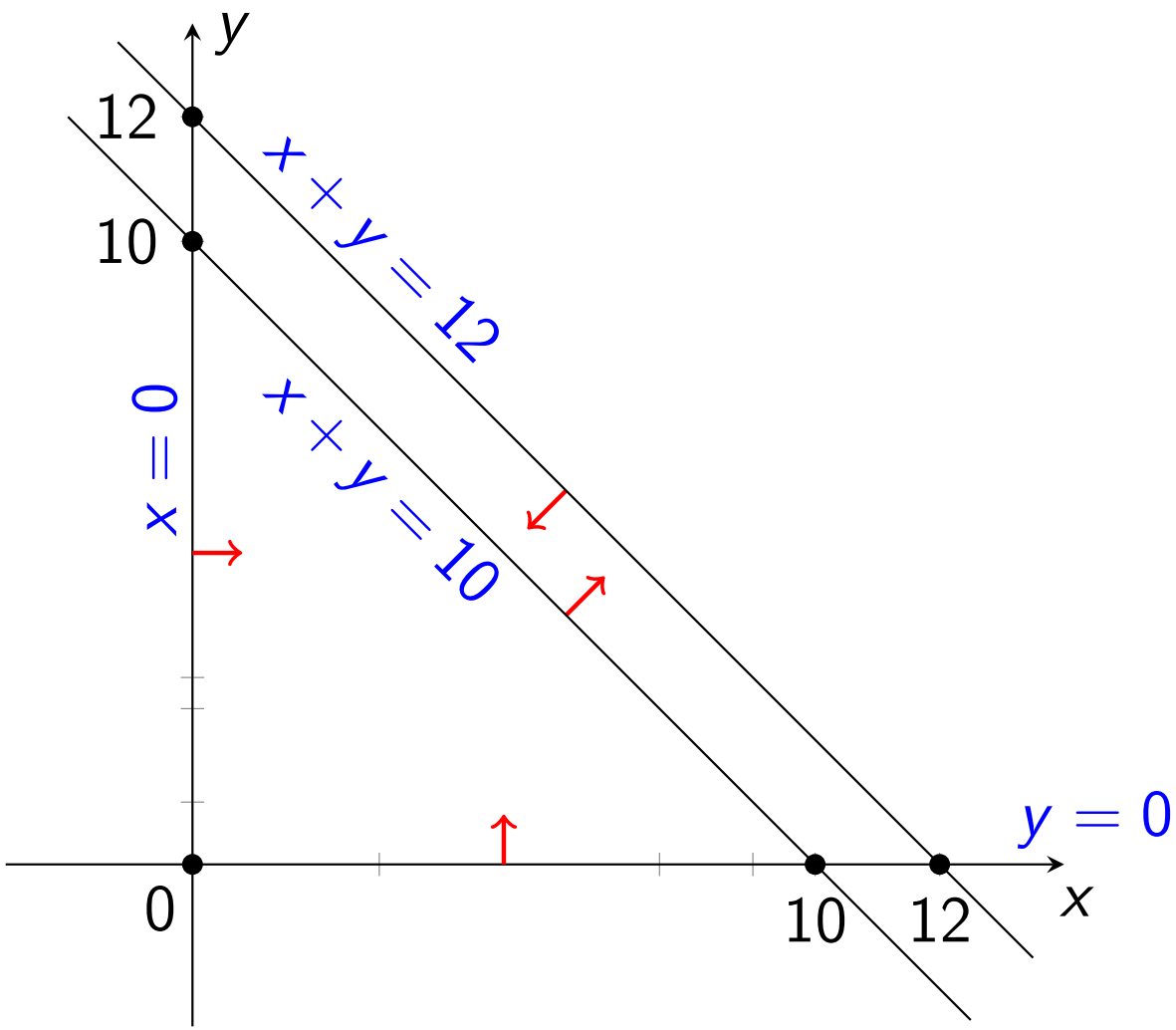


$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1$$

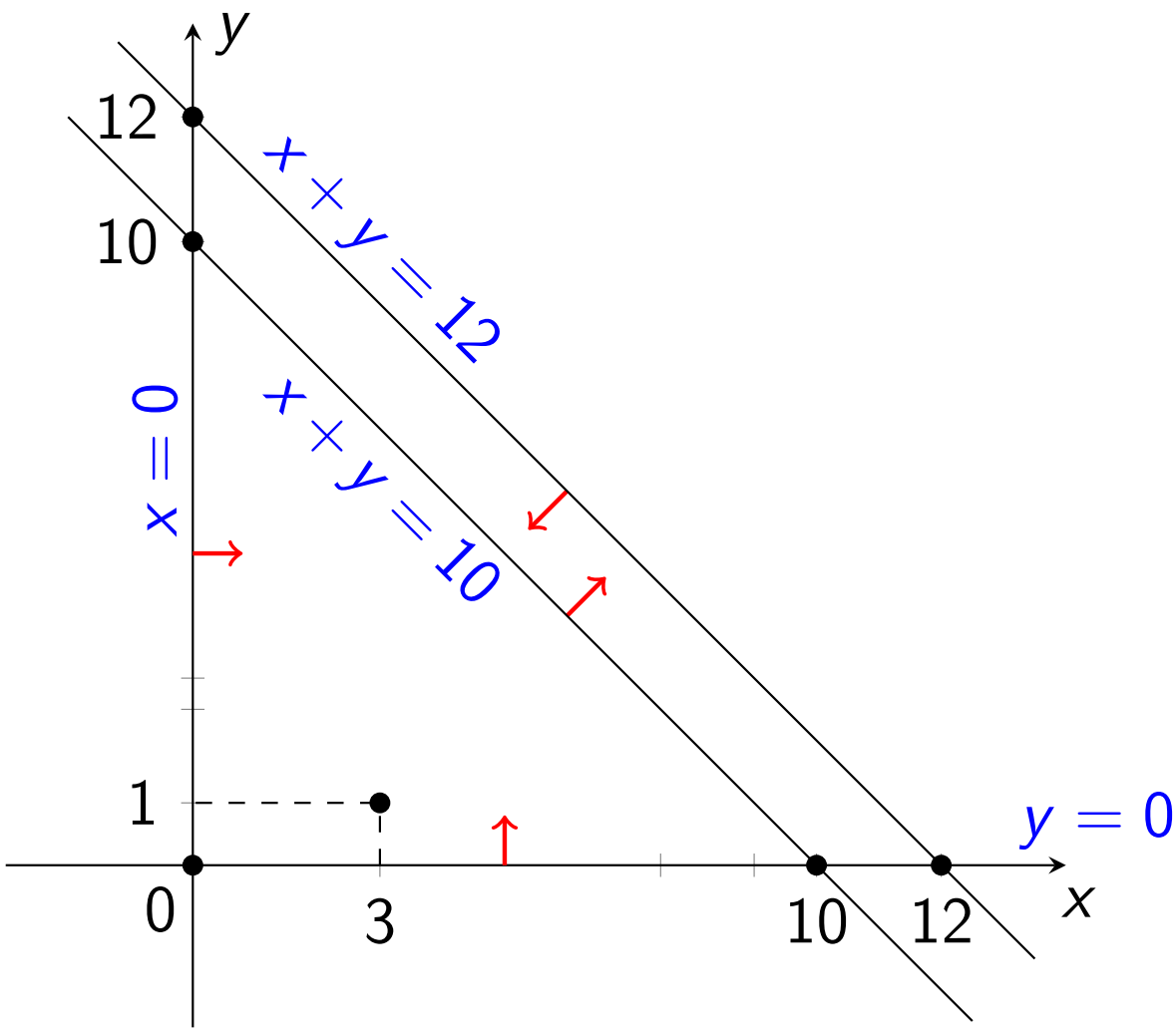


$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

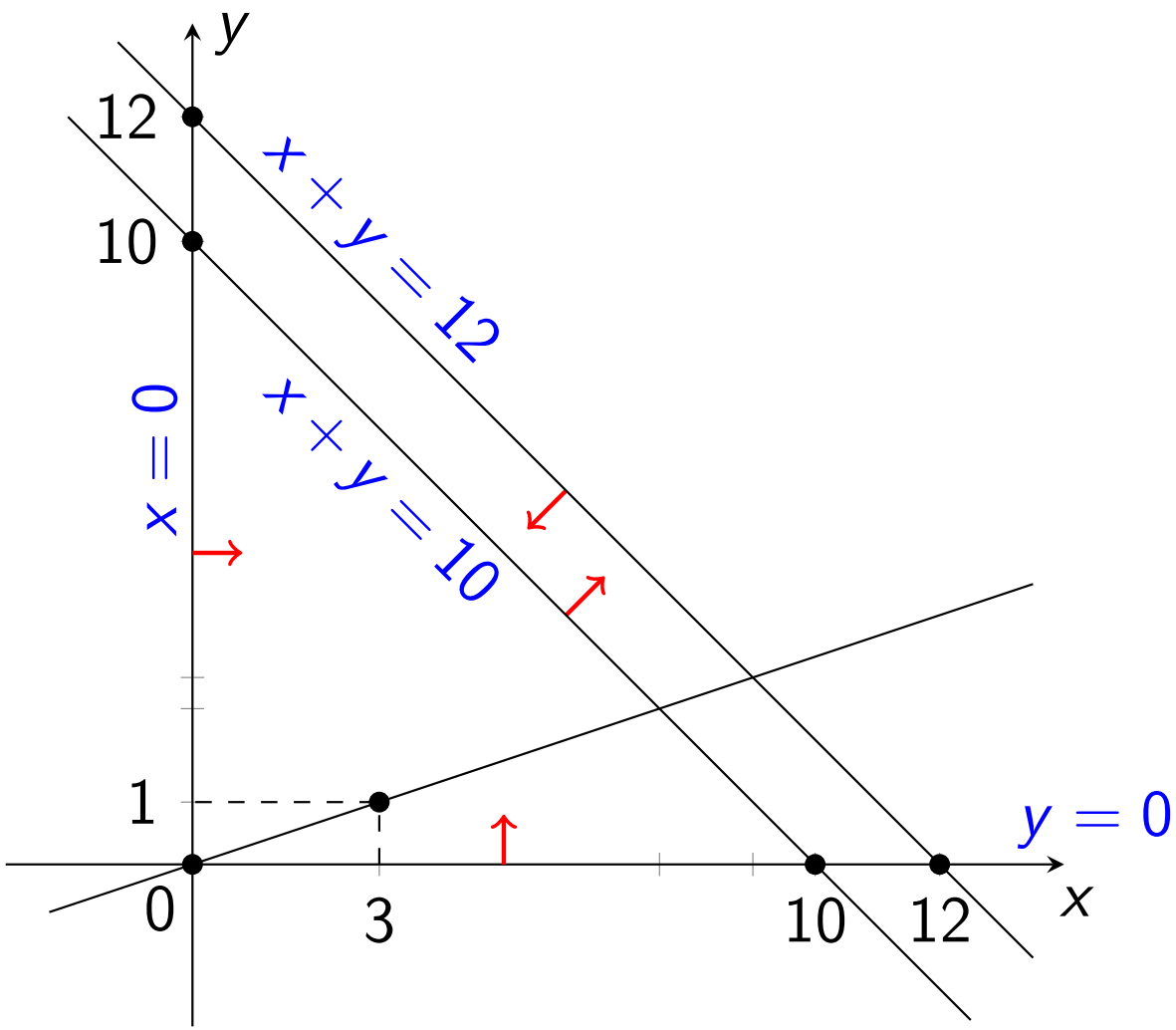


$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

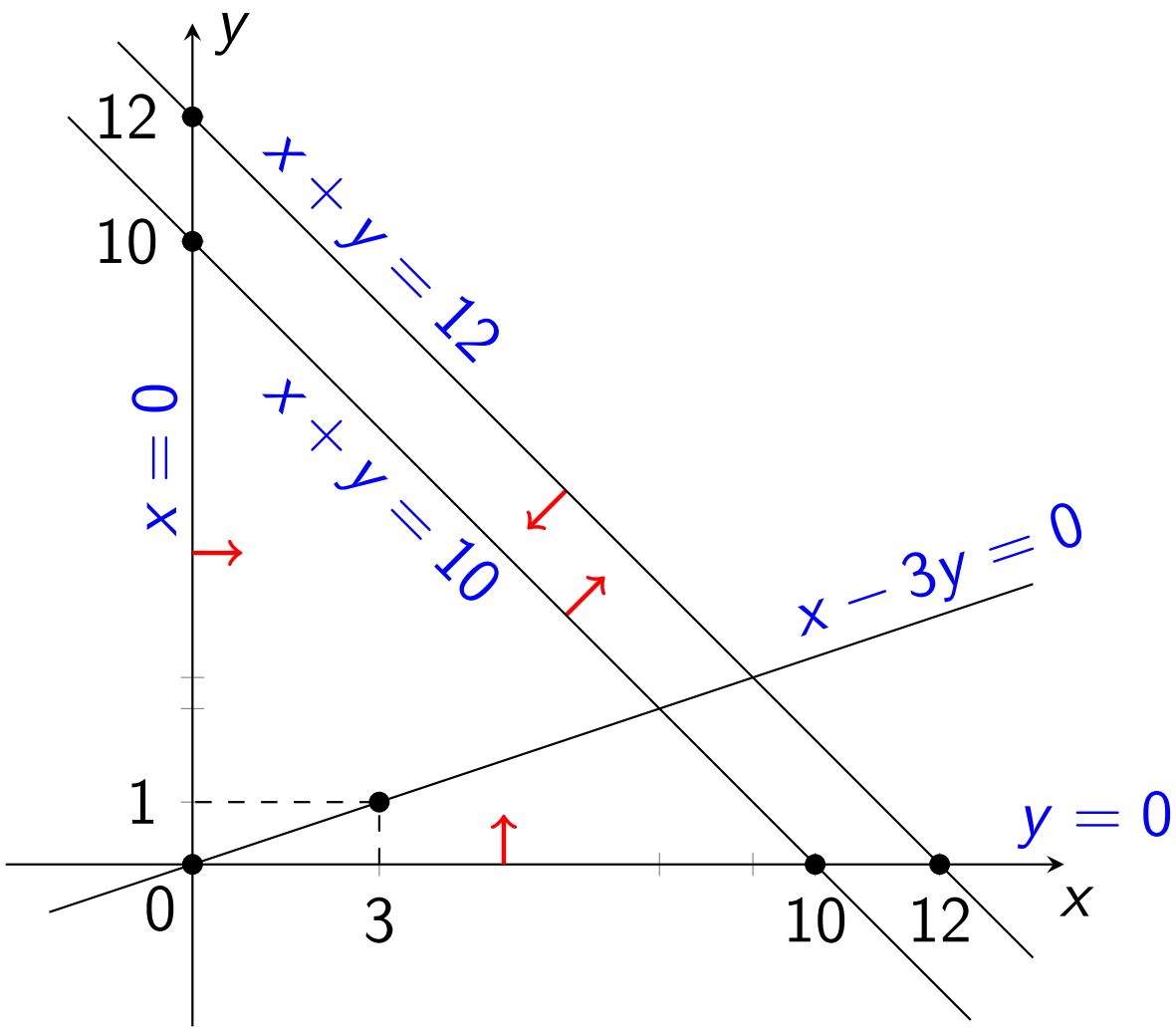
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



$$
\begin{aligned}
x &\geqslant 0\\
y &\geqslant 0\\
x+y &\leqslant 12\\
x+y &\geqslant 10\\
x-3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

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$$x + y = 10$$

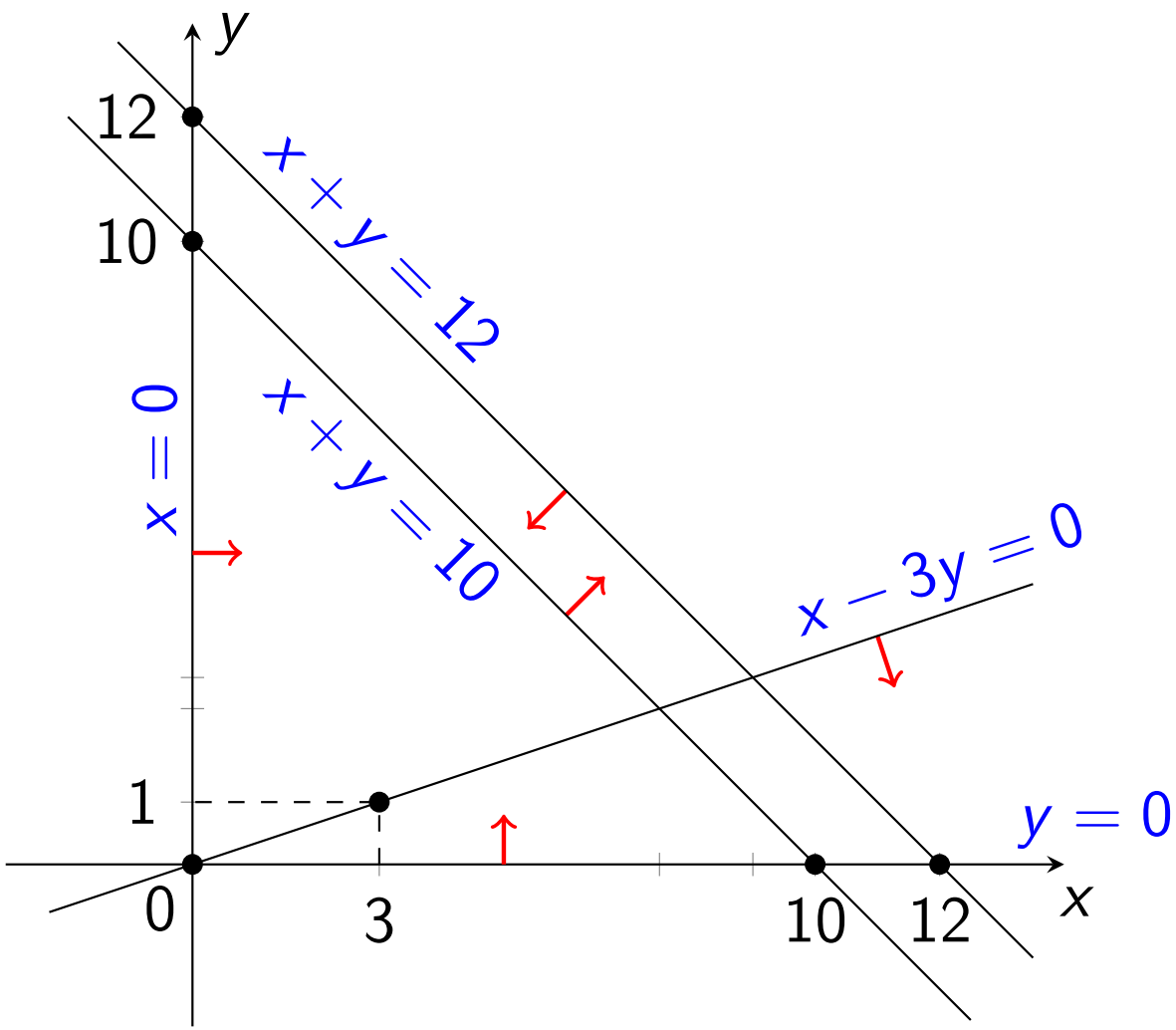
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



$$
\begin{aligned}
x &\geqslant 0 \\
y &\geqslant 0 \\
x + y &\leqslant 12 \\
x + y &\geqslant 10 \\
x - 3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

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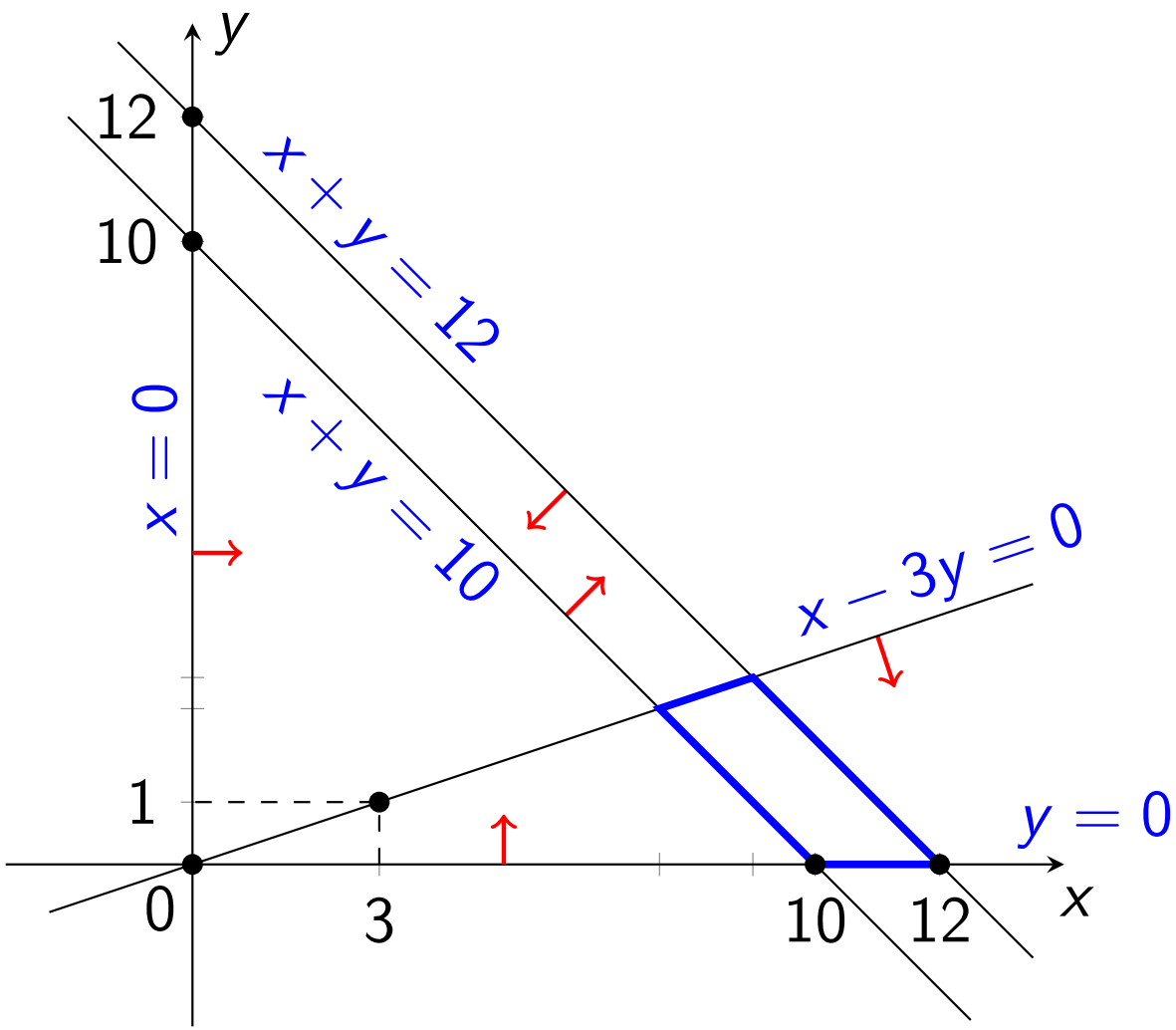
$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



$$
\begin{aligned}
x &\geqslant 0\\
y &\geqslant 0\\
x+y &\leqslant 12\\
x+y &\geqslant 10\\
x-3y &\geqslant 0
\end{aligned}
$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

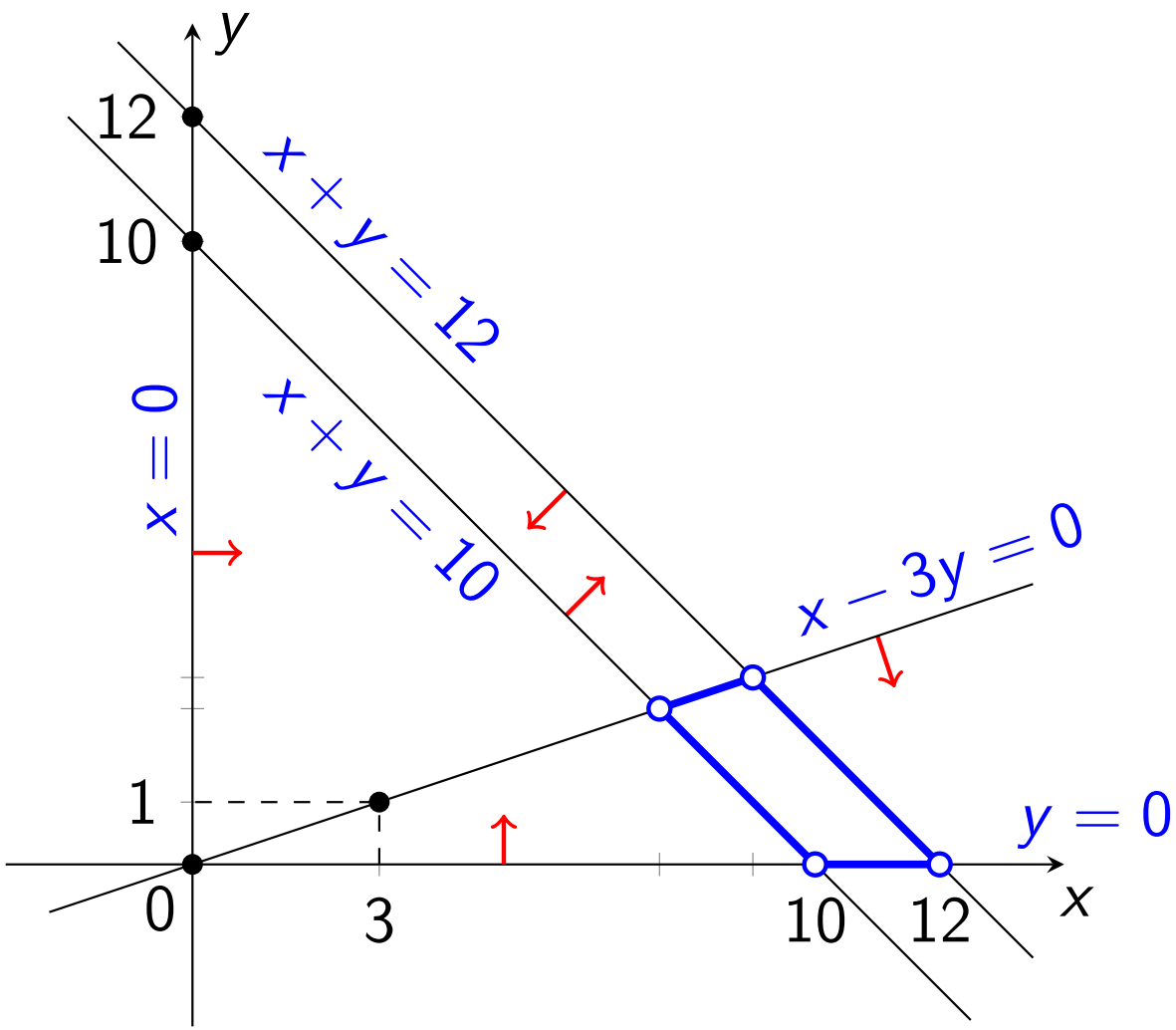
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x+y &\leqslant 12 \\ x+y &\geqslant 10 \\ x-3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

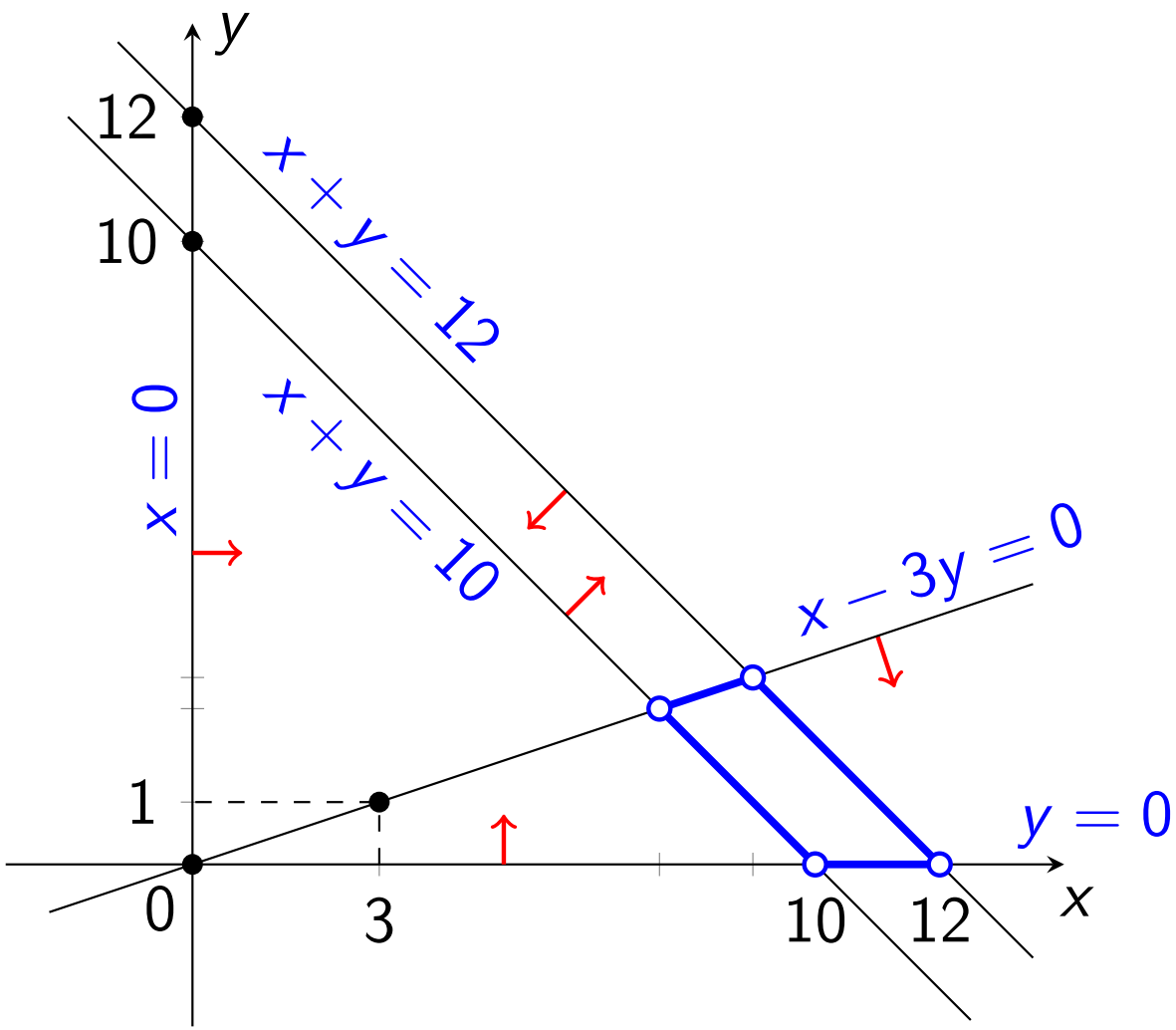
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



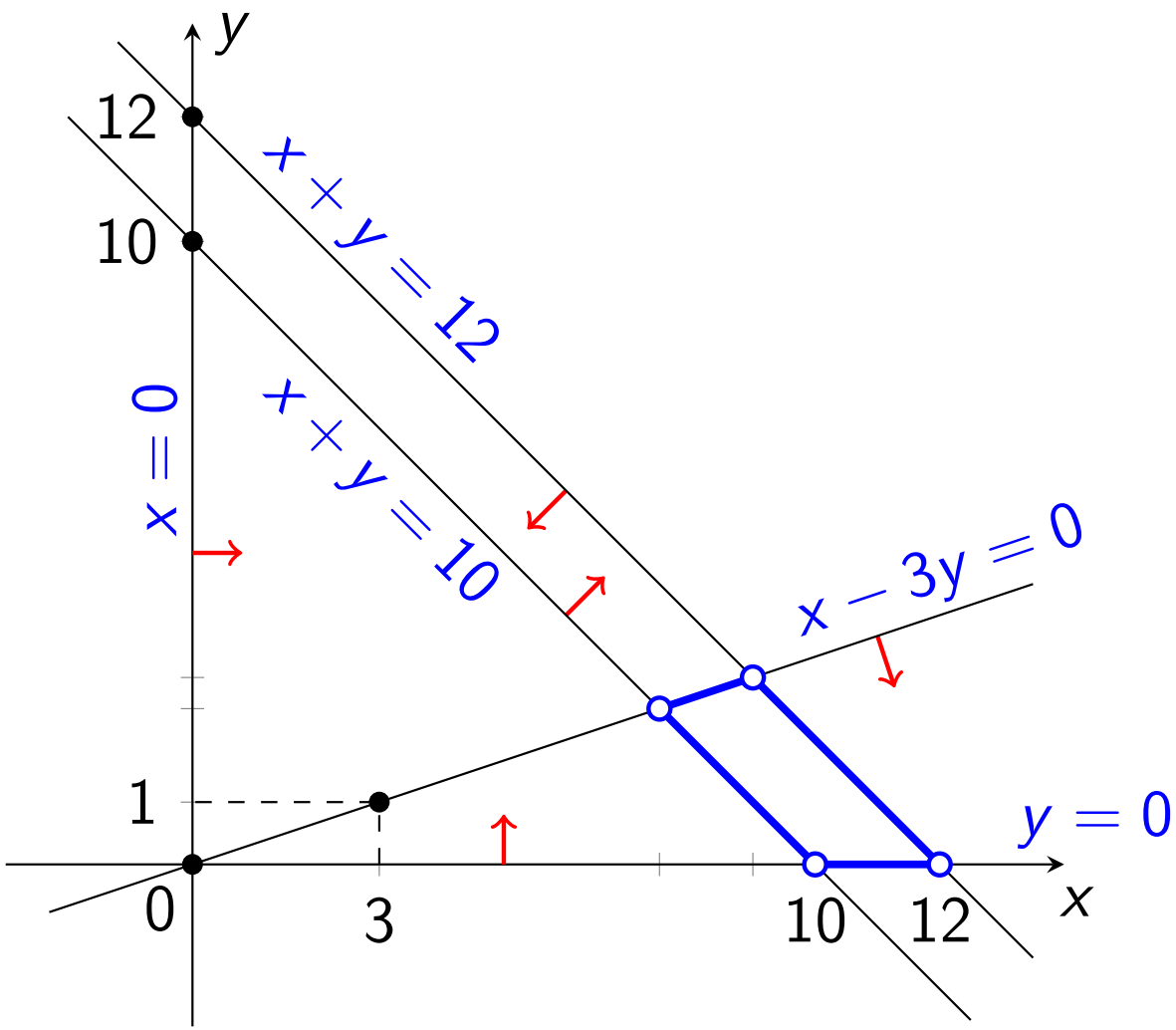
$$x + y = 10$$
$$x - 3y = 0$$

$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$



$$x + y = 10$$

$$\underline{x - 3y = 0}$$

$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

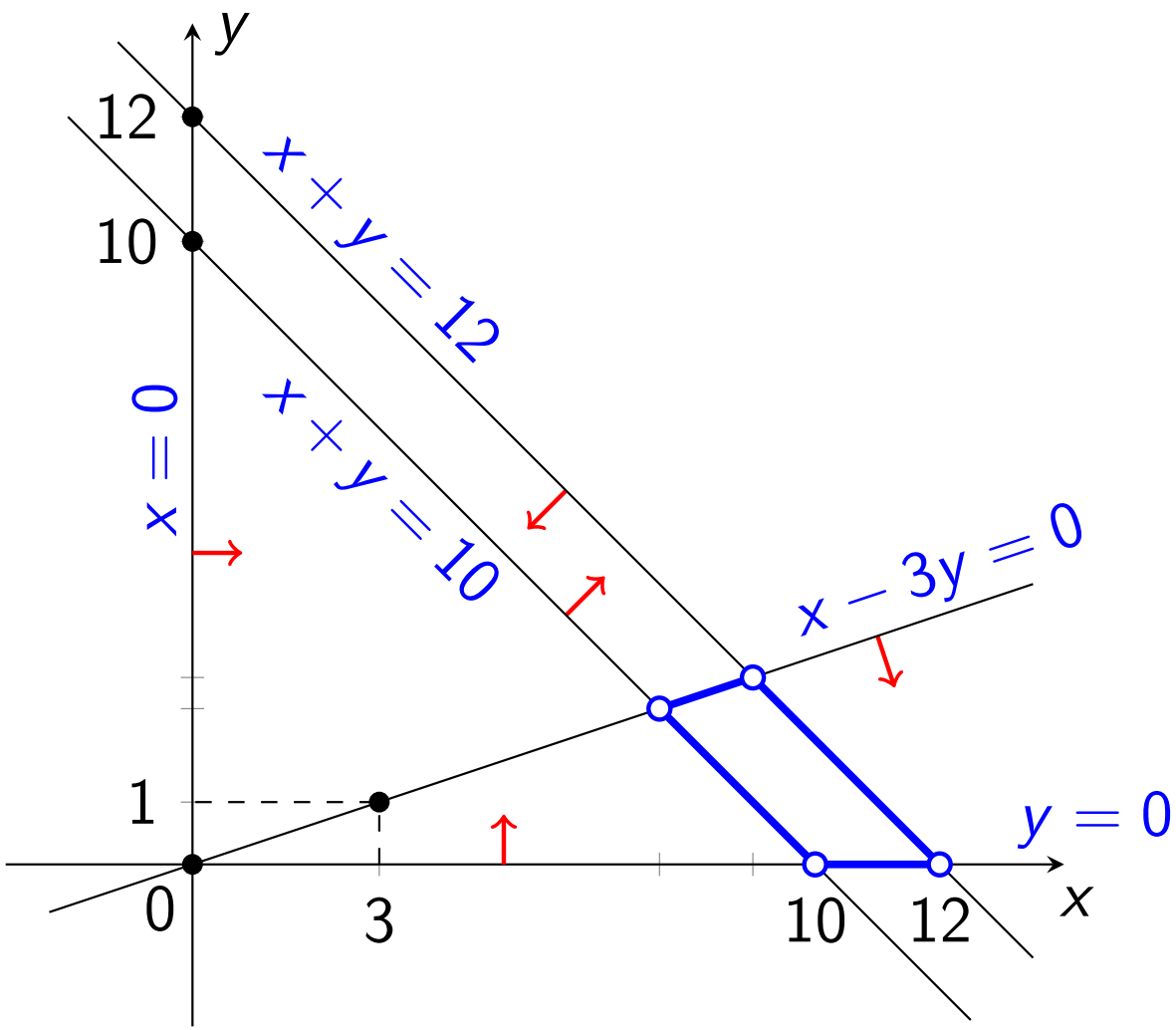
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$



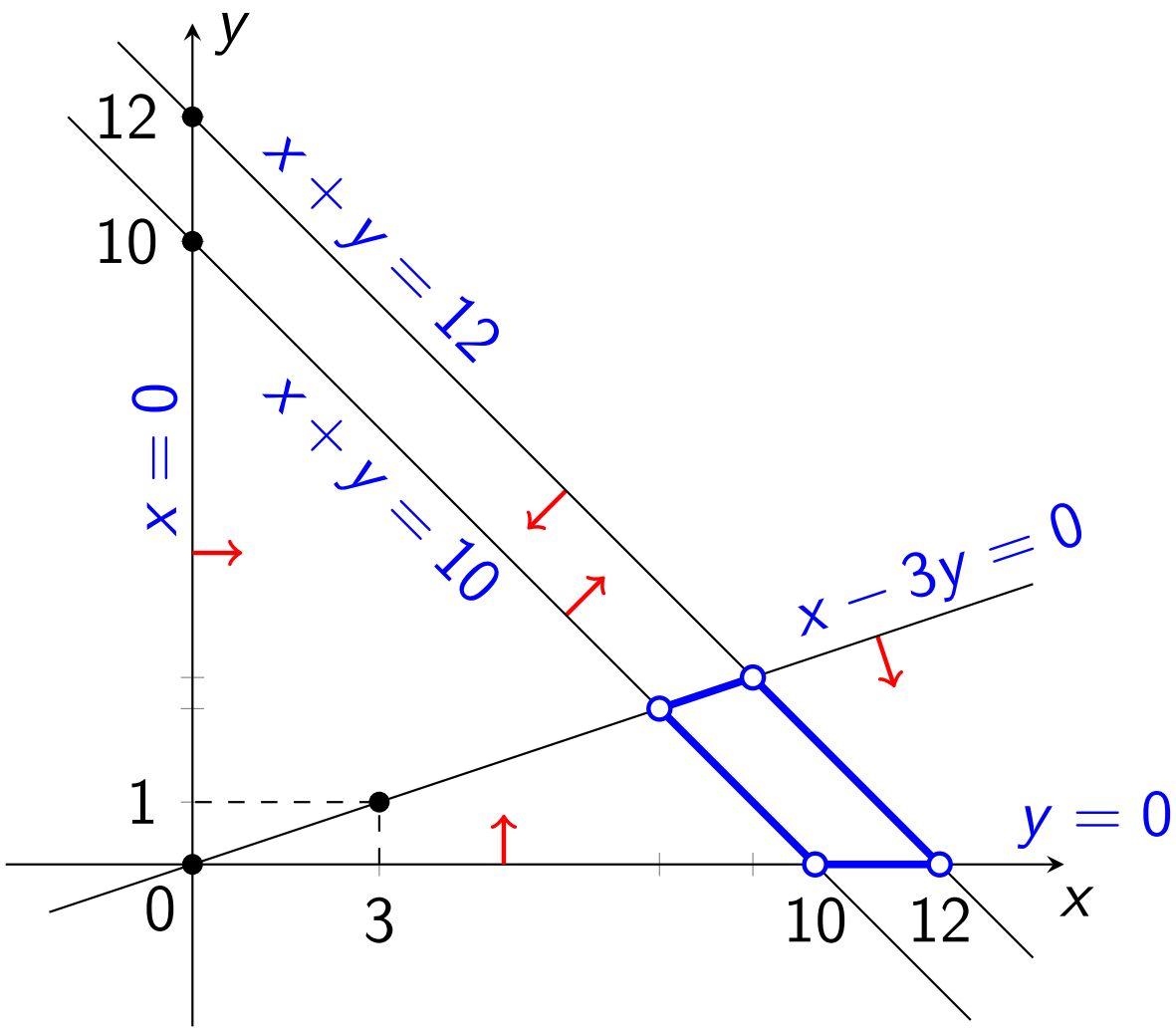
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$x + y = 10$$
$$\underline{x - 3y = 0} \longrightarrow x = 3y$$



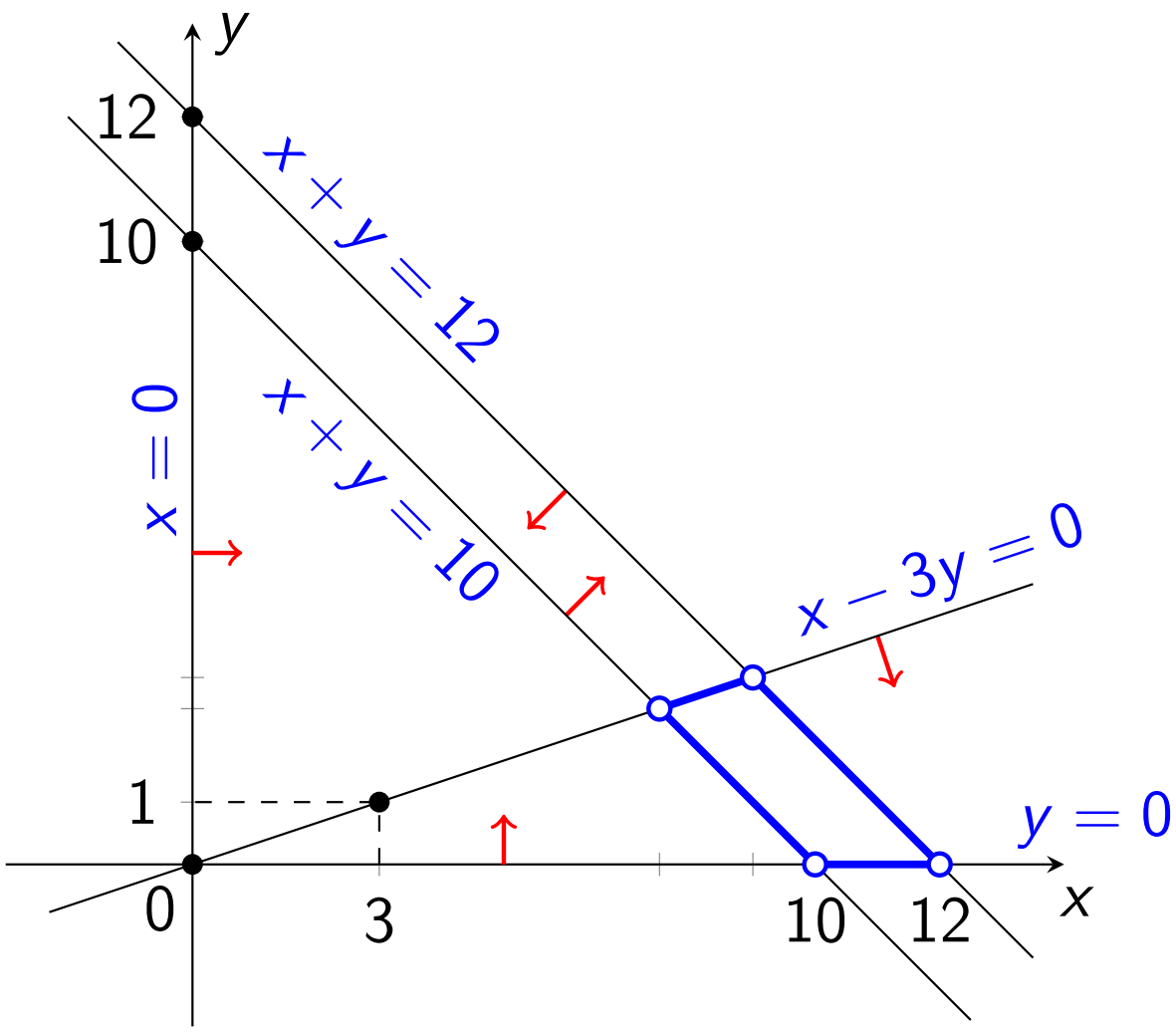
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$x + y = 10 \rightsquigarrow$$
$$\underline{x - 3y = 0} \longrightarrow x = 3y$$



$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

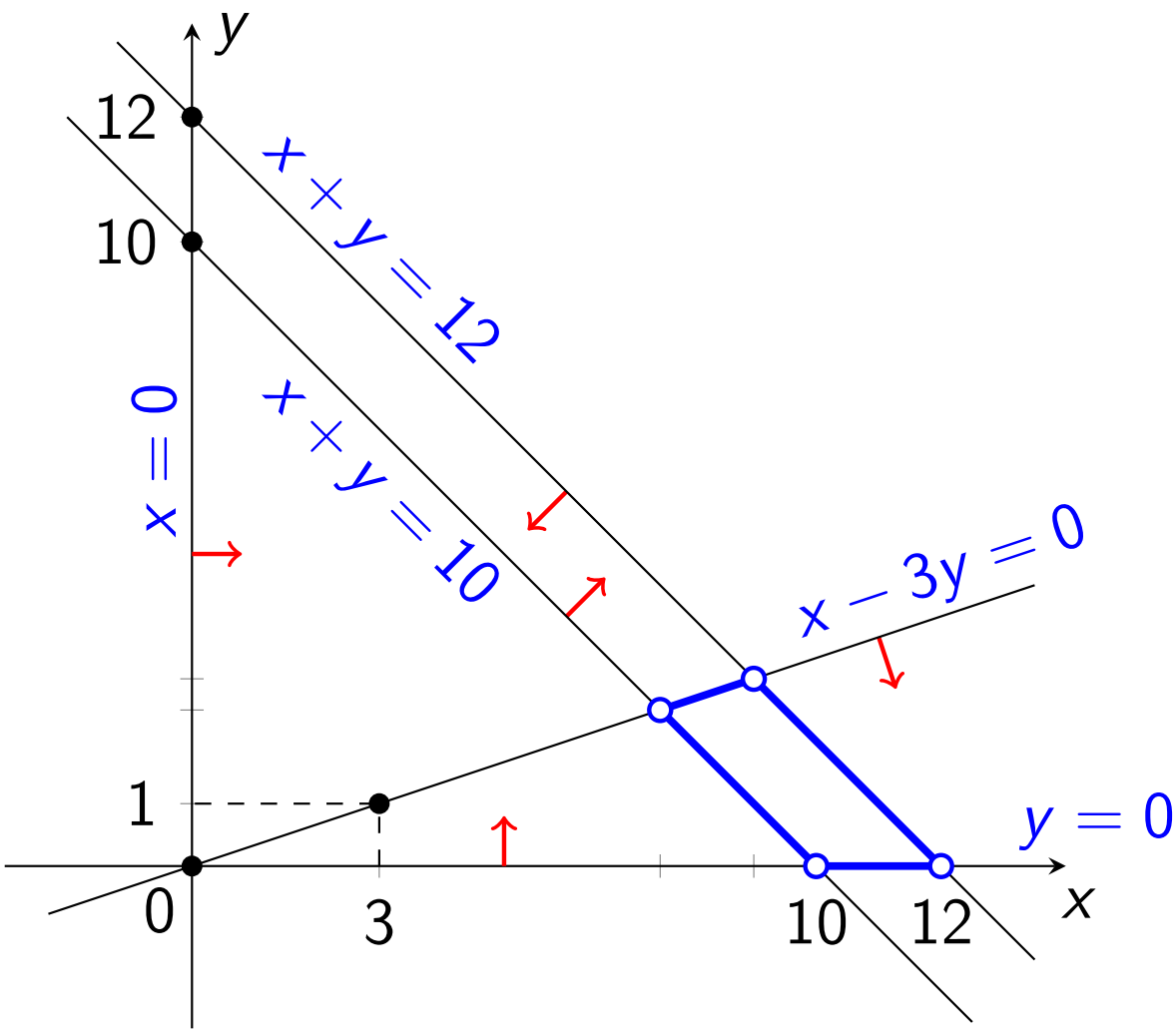
$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$y = 2.5$

$x + y = 10 \rightsquigarrow$

$x - 3y = 0 \longrightarrow x = 3y$



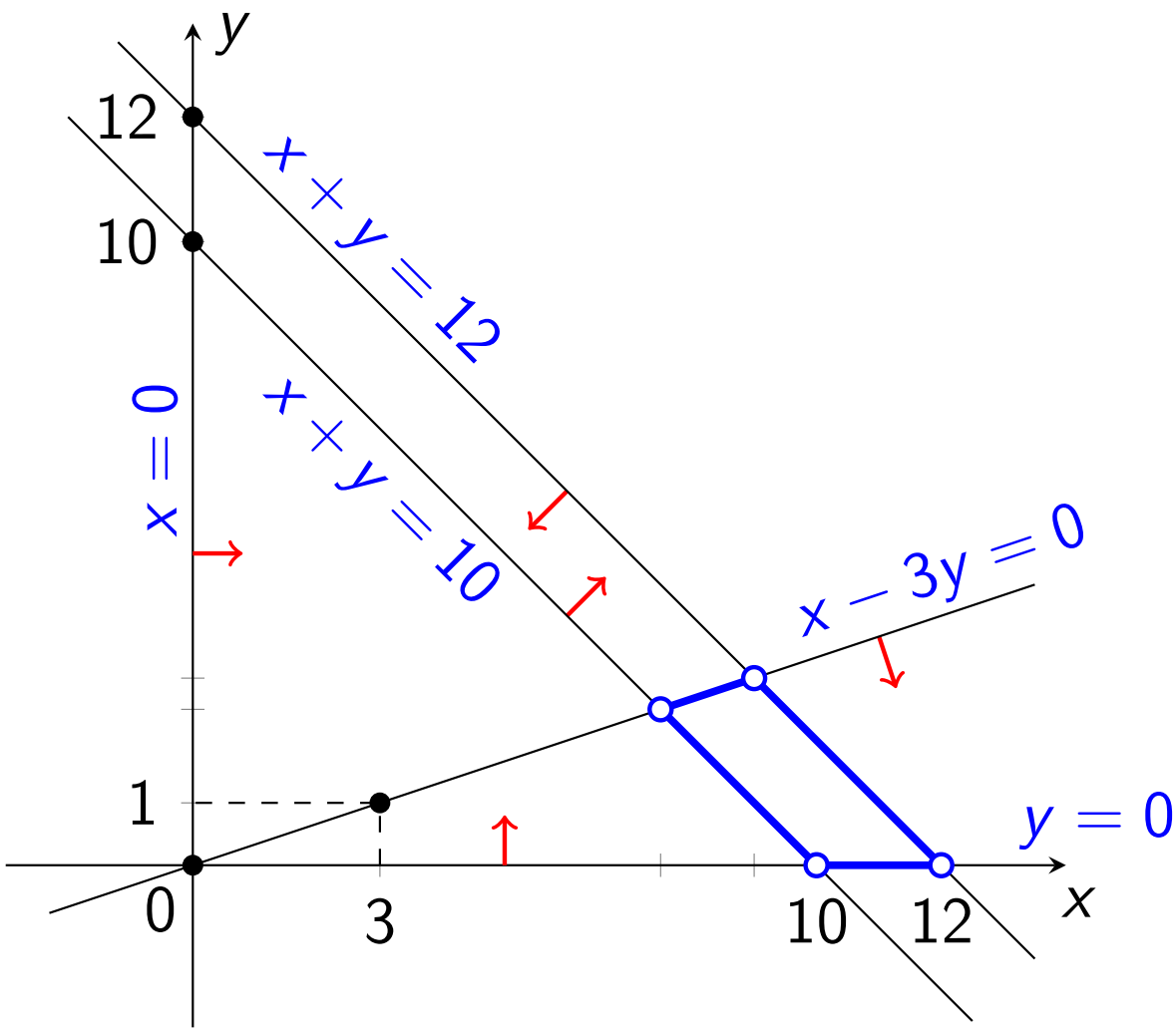
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$y = 2.5$$
$$x + y = 10 \rightsquigarrow$$
$$x - 3y = 0 \longrightarrow x = 3y$$



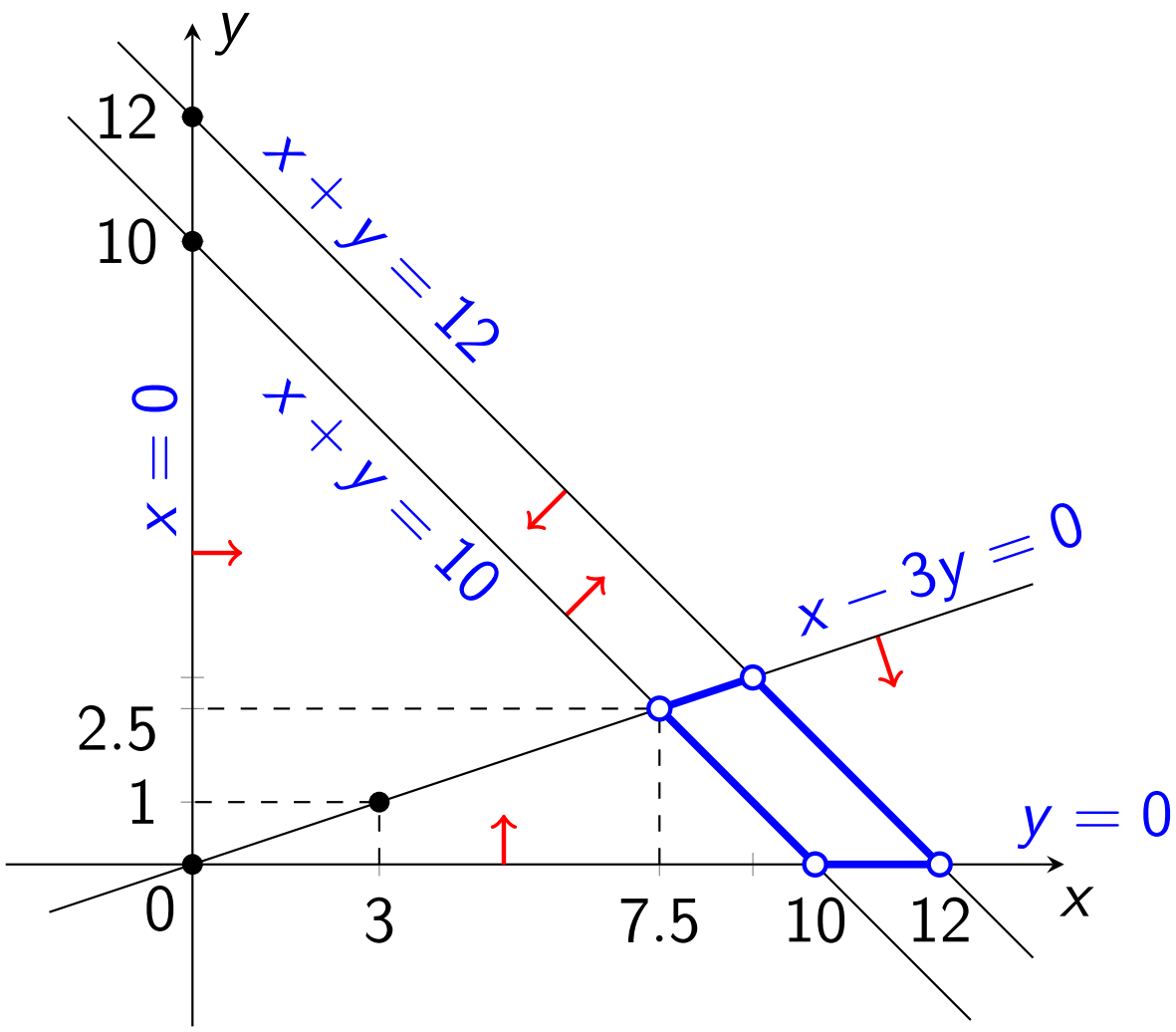
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$x + y = 10 \longleftarrow y = 2.5 \quad x = 7.5$$
$$\underline{x - 3y = 0} \longrightarrow x = 3y$$



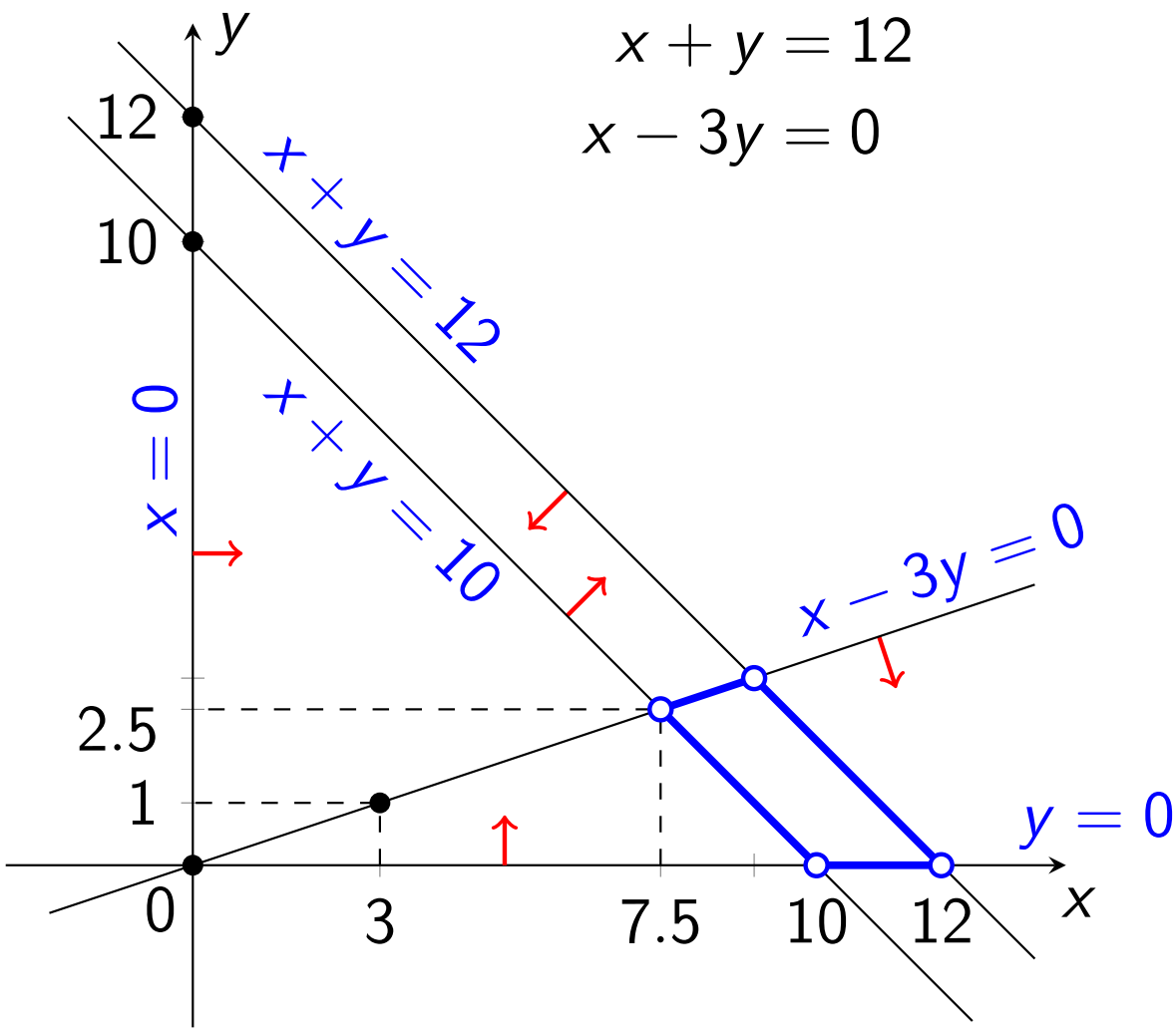
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$y = 2.5$$
$$x + y = 10 \rightsquigarrow x = 7.5$$
$$x - 3y = 0 \longrightarrow x = 3y$$



$$x + y = 12$$
$$x - 3y = 0$$

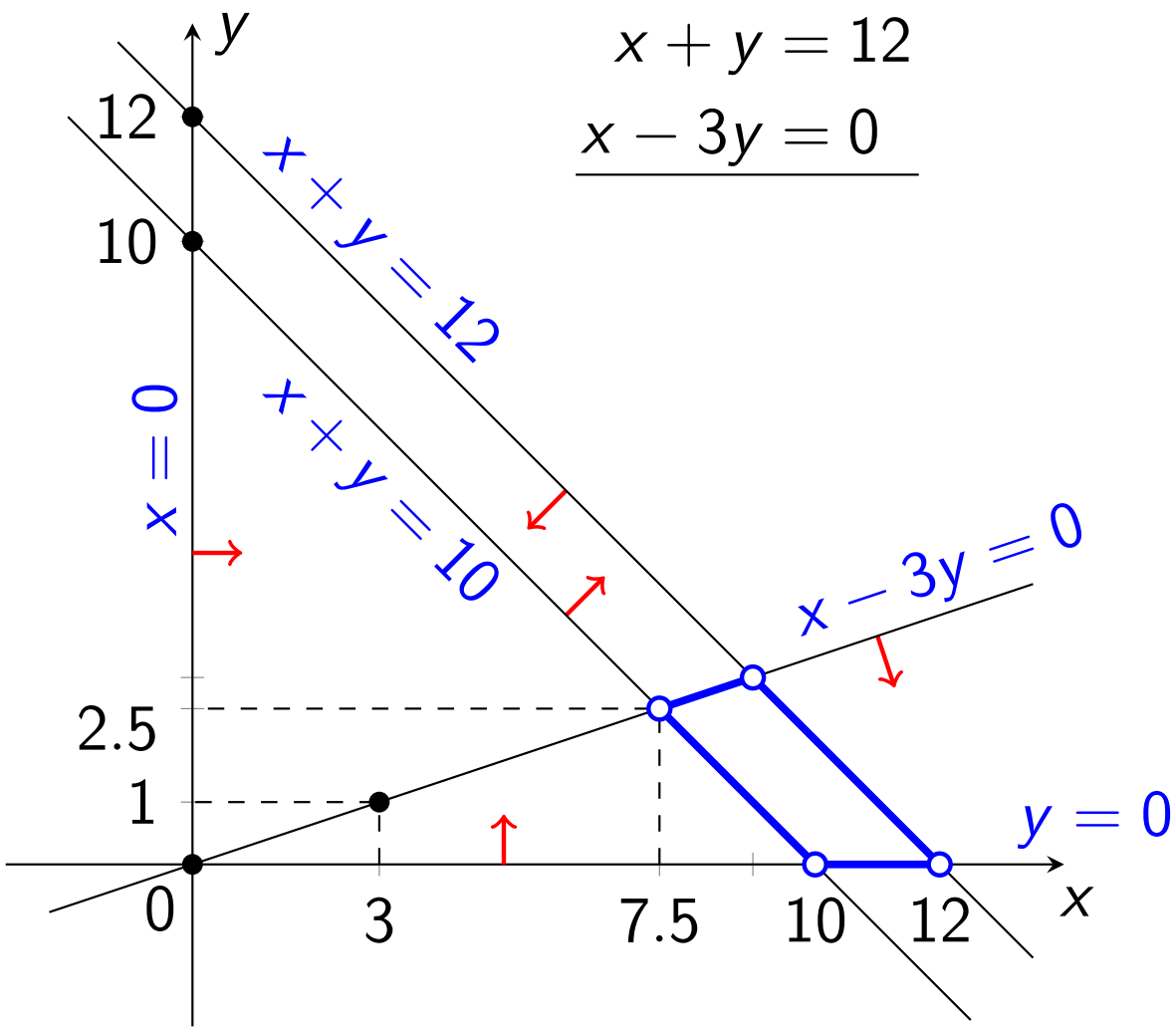
$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$y = 2.5$$
$$x + y = 10 \rightsquigarrow x = 7.5$$
$$x - 3y = 0 \longrightarrow x = 3y$$



$$x + y = 12$$
$$x - 3y = 0$$

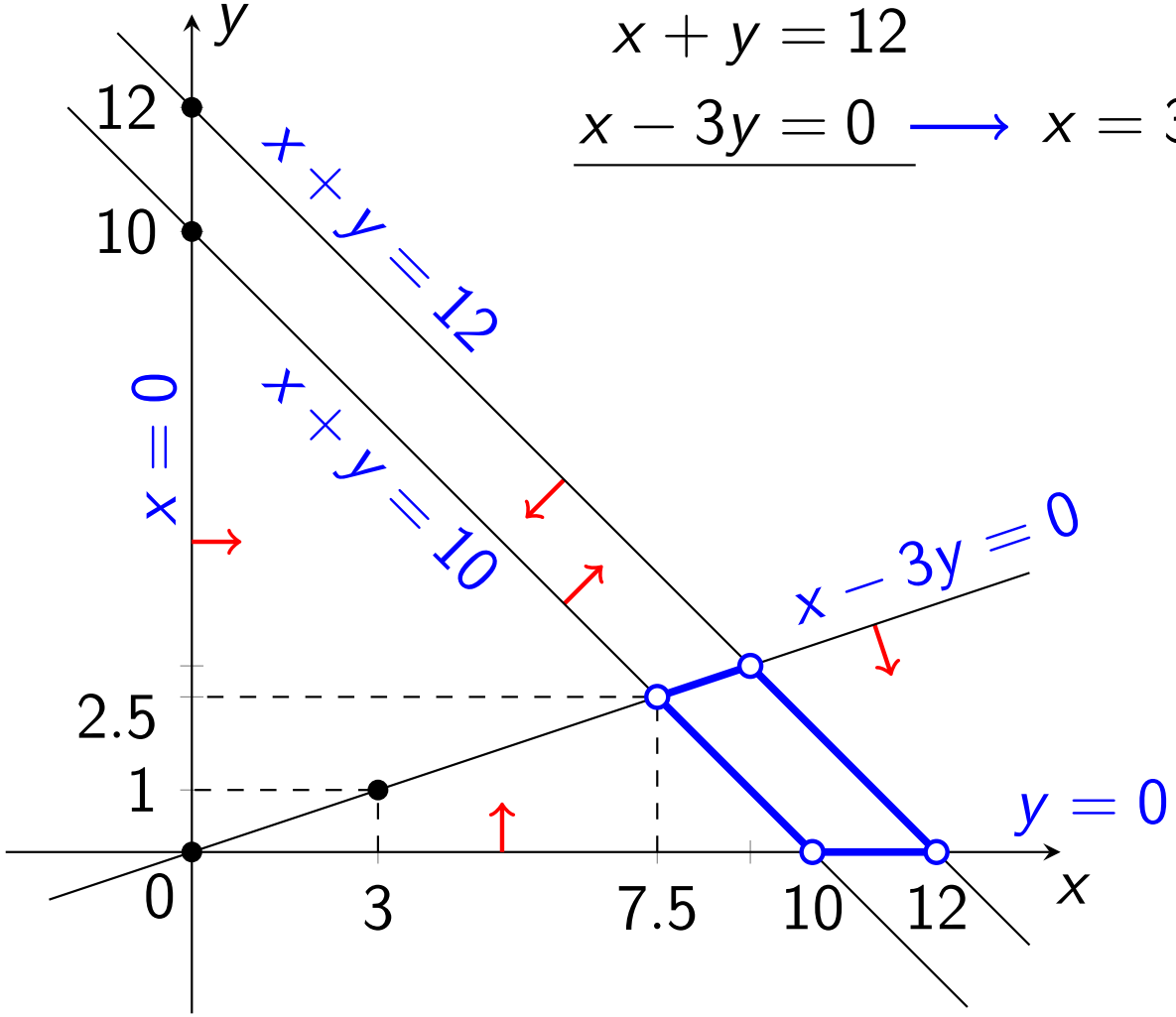
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$x + y = 10 \rightsquigarrow y = 2.5$$
$$x - 3y = 0 \longrightarrow x = 3y \rightsquigarrow x = 7.5$$



$$x + y = 12$$

$$\underline{x - 3y = 0 \longrightarrow x = 3y}$$

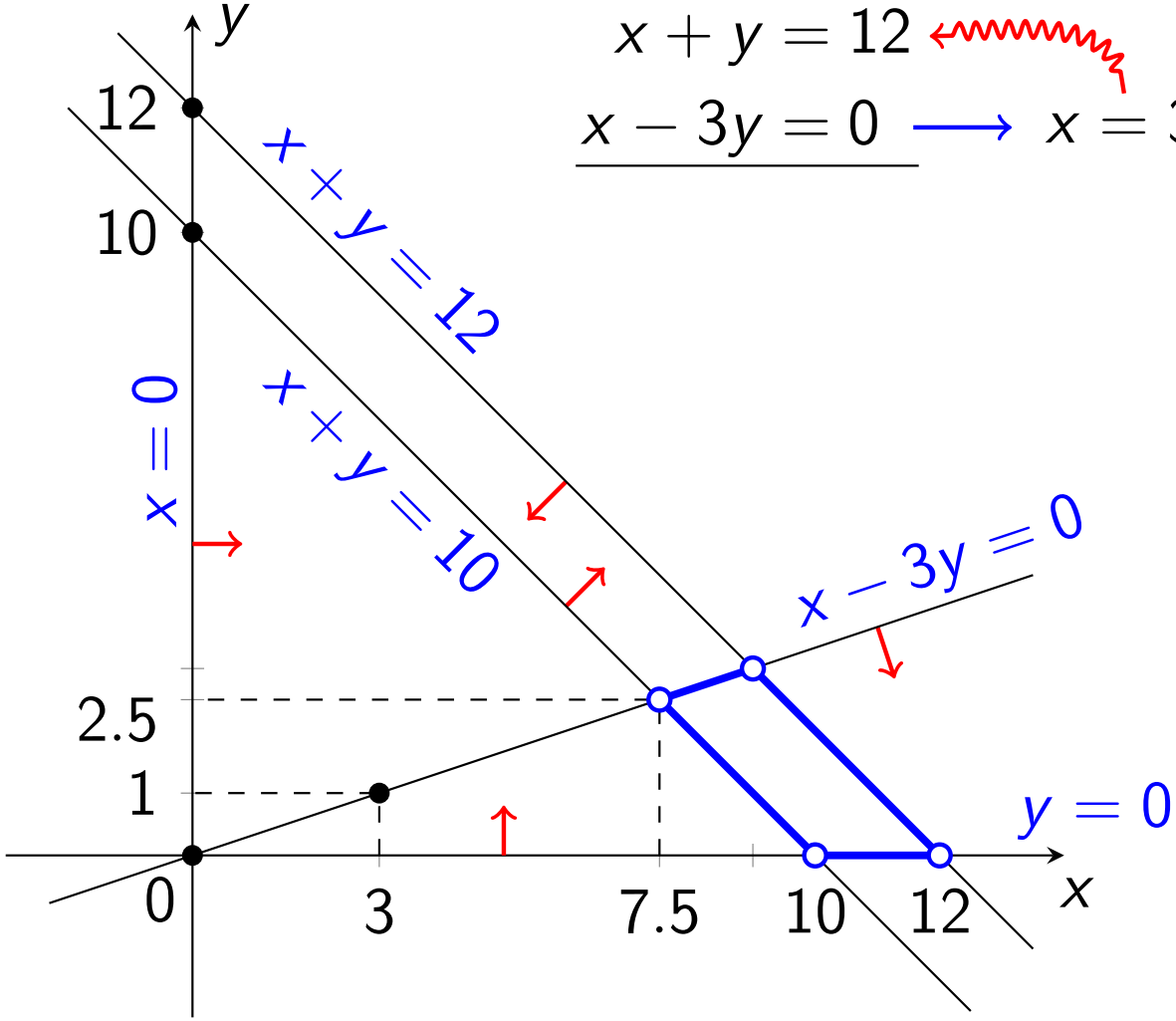
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$y = 2.5$$
$$x + y = 10 \rightsquigarrow x = 7.5$$
$$\underline{x - 3y = 0 \longrightarrow x = 3y}$$



$$x + y = 12$$
$$\underline{x - 3y = 0} \longrightarrow x = 3y$$

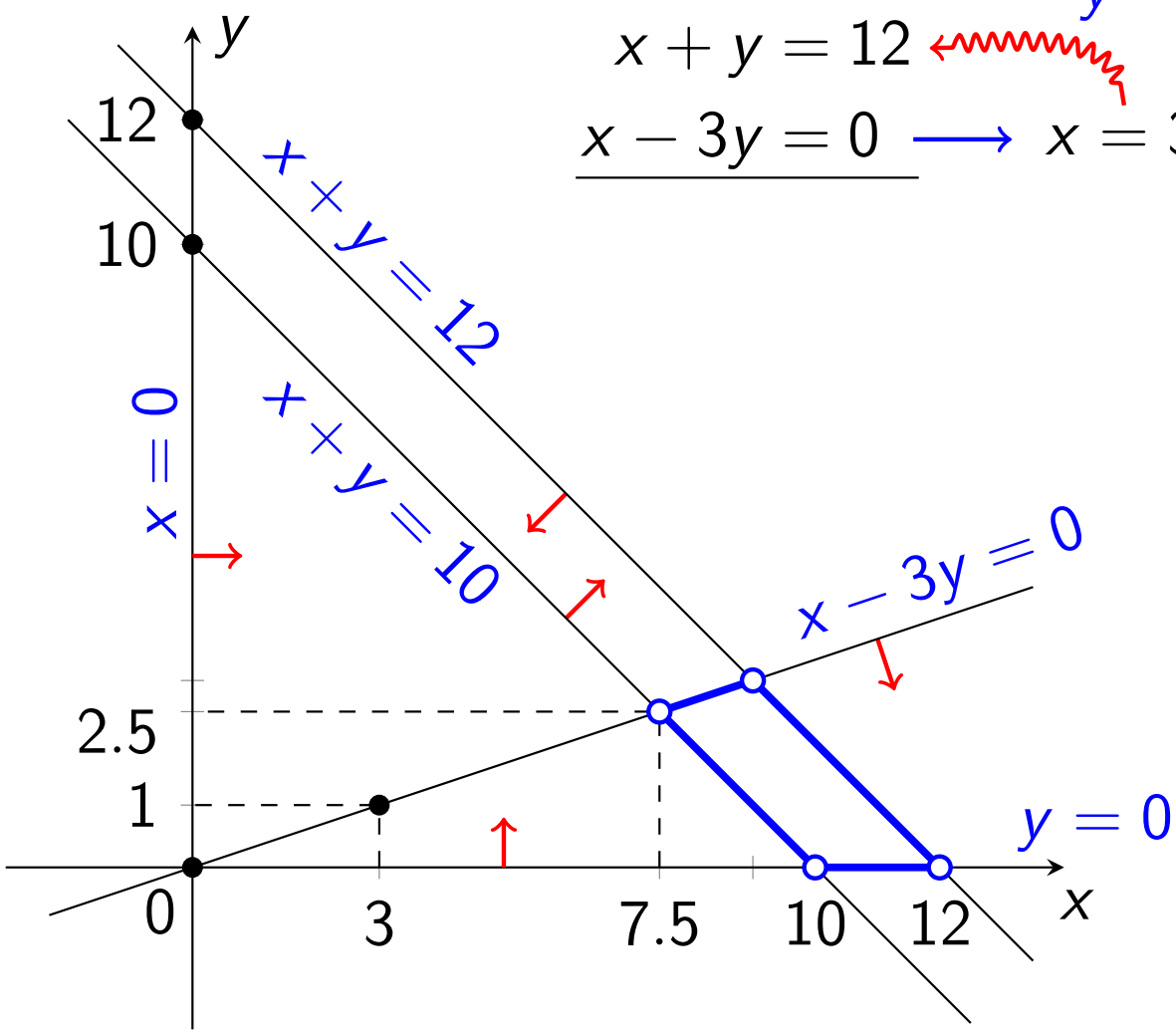
$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$y = 2.5$$
$$x + y = 10$$
$$\underline{x - 3y = 0} \longrightarrow x = 3y \quad x = 7.5$$



$$y = 3$$
$$x + y = 12 \rightsquigarrow$$
$$x - 3y = 0 \longrightarrow x = 3y$$

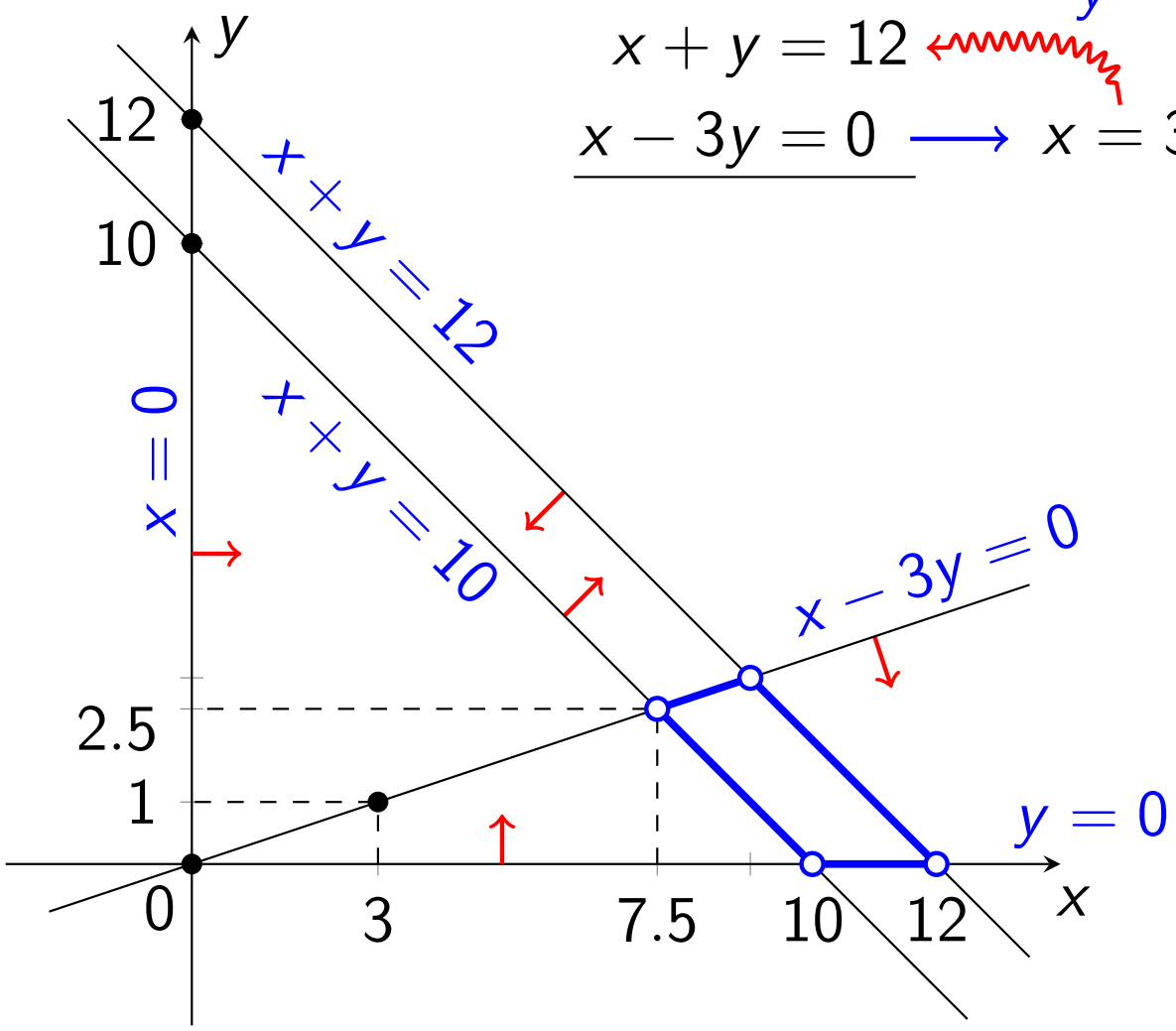
$$y = 2.5$$
$$x + y = 10 \rightsquigarrow$$
$$x - 3y = 0 \longrightarrow x = 3y$$
$$x = 7.5$$

$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$



$$y = 3$$
$$x + y = 12 \rightsquigarrow$$
$$x - 3y = 0 \longrightarrow x = 3y$$

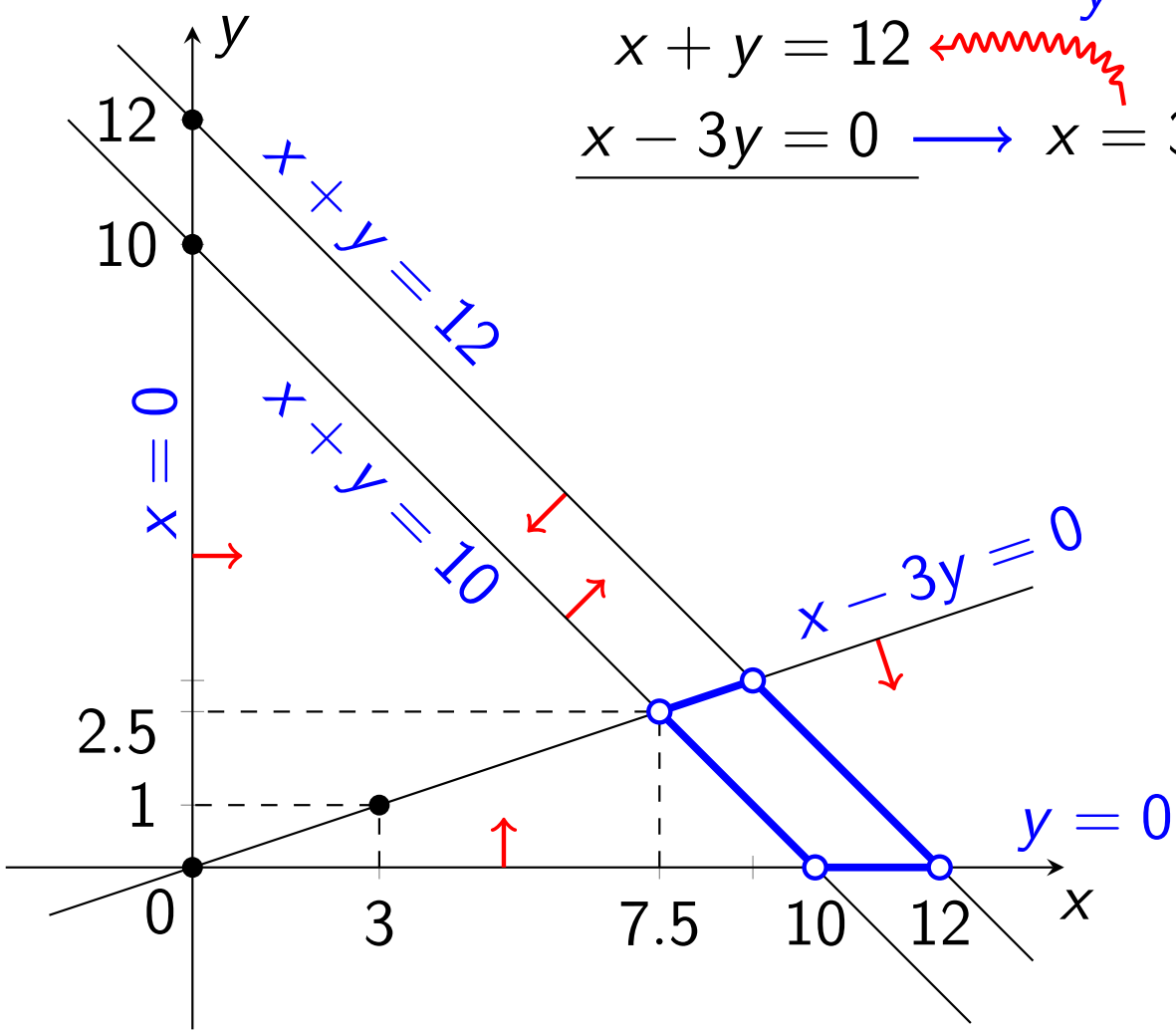
$$y = 2.5$$
$$x + y = 10 \rightsquigarrow$$
$$x - 3y = 0 \longrightarrow x = 3y \quad x = 7.5$$

$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$



$$\begin{aligned} x + y &= 12 \\ x - 3y &= 0 \end{aligned} \quad \begin{matrix} y = 3 \\ \rightsquigarrow \\ \longrightarrow \end{matrix} \quad \begin{matrix} x = 9 \\ \\ x = 3y \end{matrix}$$

$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

$$x = 0 \rightsquigarrow y = 10$$

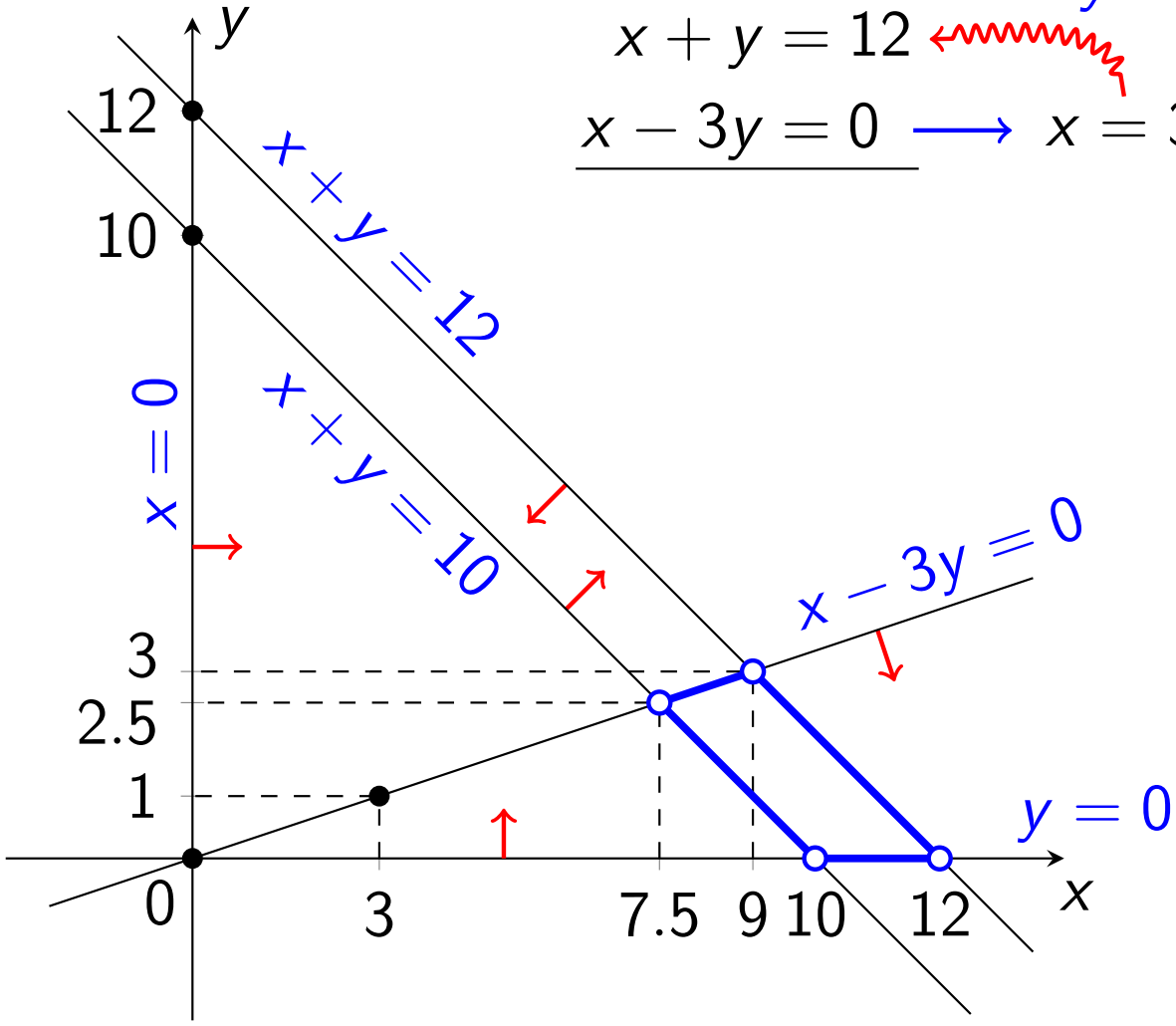
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$

$$\begin{aligned} x + y &= 10 \\ x - 3y &= 0 \end{aligned} \quad \begin{matrix} y = 2.5 \\ \rightsquigarrow \\ \longrightarrow \end{matrix} \quad \begin{matrix} x = 7.5 \\ \\ x = 3y \end{matrix}$$



$$x + y = 12 \quad \overset{y=3}{\rightsquigarrow} \quad x = 9$$

$$x - 3y = 0 \longrightarrow x = 3y$$

$$x \geqslant 0$$
$$y \geqslant 0$$
$$x + y \leqslant 12$$
$$x + y \geqslant 10$$
$$x - 3y \geqslant 0$$

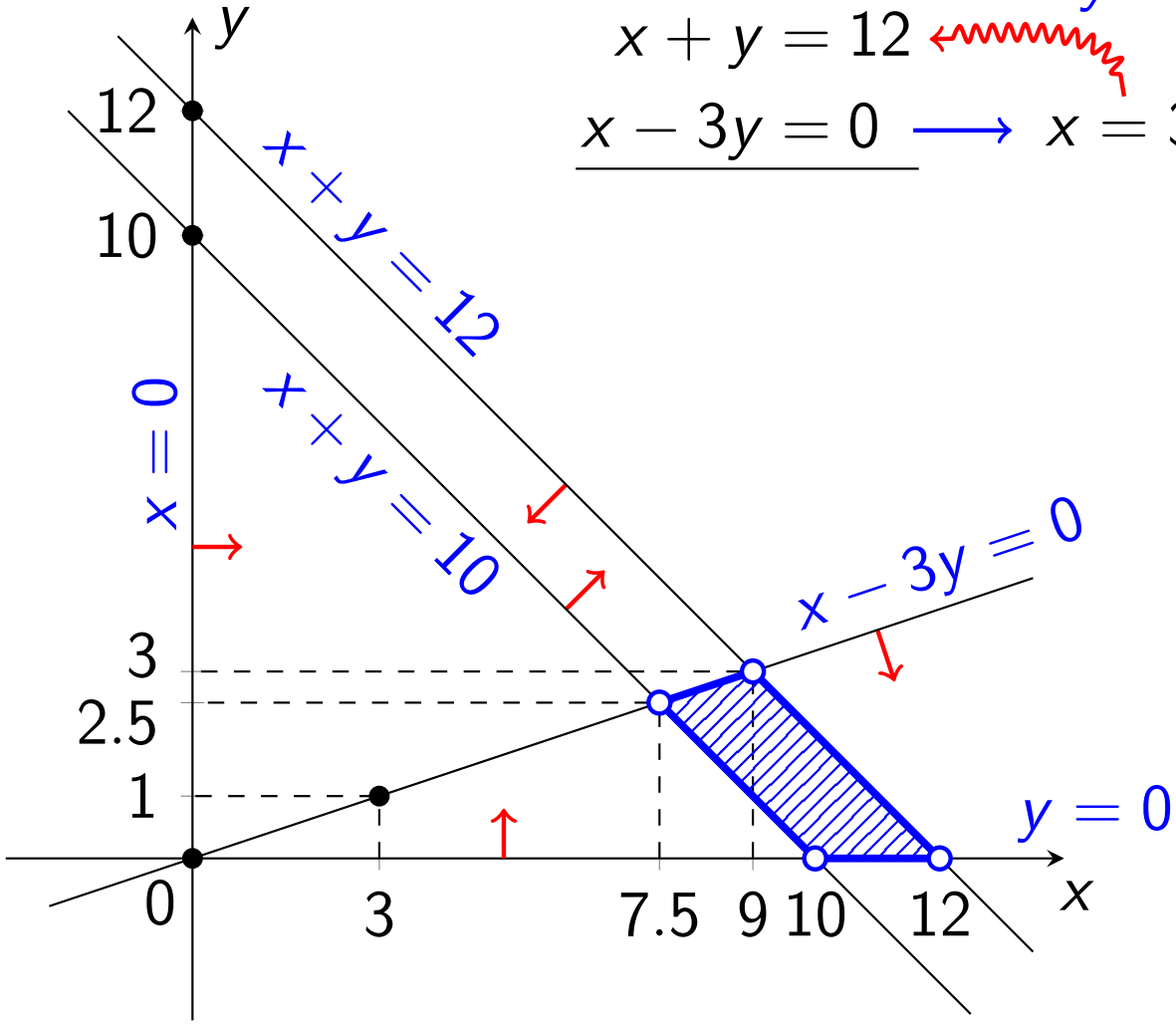
$$x + y = 12$$
$$x = 0 \rightsquigarrow y = 12$$
$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$
$$x = 0 \rightsquigarrow y = 10$$
$$y = 0 \rightsquigarrow x = 10$$

$$x - 3y = 0$$
$$x = 0 \rightsquigarrow y = 0$$
$$y = 1 \rightsquigarrow x = 3$$

$$x + y = 10 \quad \overset{y=2.5}{\rightsquigarrow} \quad x = 7.5$$

$$x - 3y = 0 \longrightarrow x = 3y$$



$$\begin{aligned} x + y &= 12 \\ x - 3y &= 0 \longrightarrow x = 3y \end{aligned} \qquad y = 3 \Rightarrow x = 9$$

$$\begin{aligned} x + y &= 10 \\ x - 3y &= 0 \longrightarrow x = 3y \end{aligned} \qquad y = 2.5 \Rightarrow x = 7.5$$

$$\begin{aligned} x &\geqslant 0 \\ y &\geqslant 0 \\ x + y &\leqslant 12 \\ x + y &\geqslant 10 \\ x - 3y &\geqslant 0 \end{aligned}$$

$$x + y = 12$$

$$x = 0 \rightsquigarrow y = 12$$

$$y = 0 \rightsquigarrow x = 12$$

$$x + y = 10$$

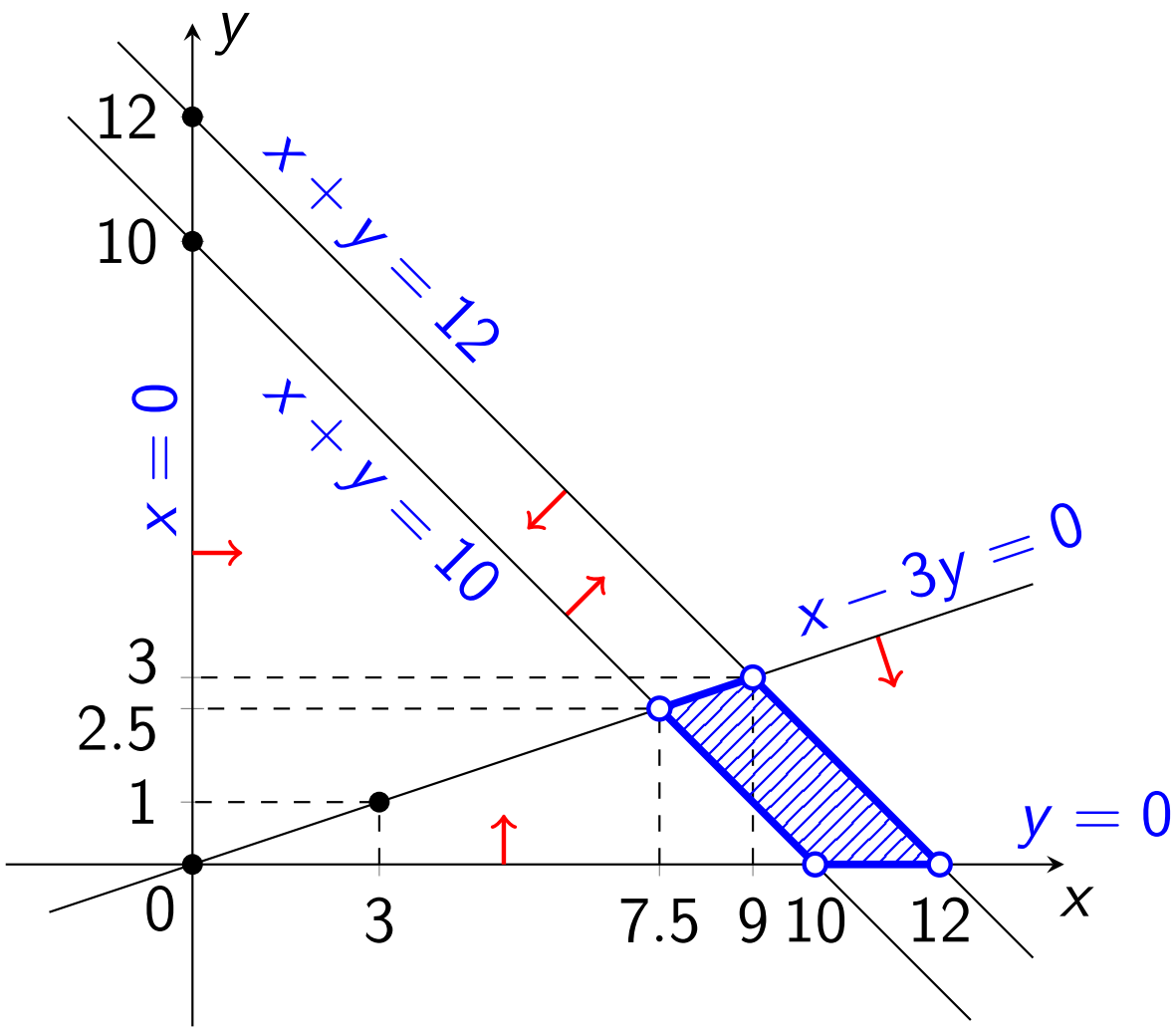
$$x = 0 \rightsquigarrow y = 10$$

$$y = 0 \rightsquigarrow x = 10$$

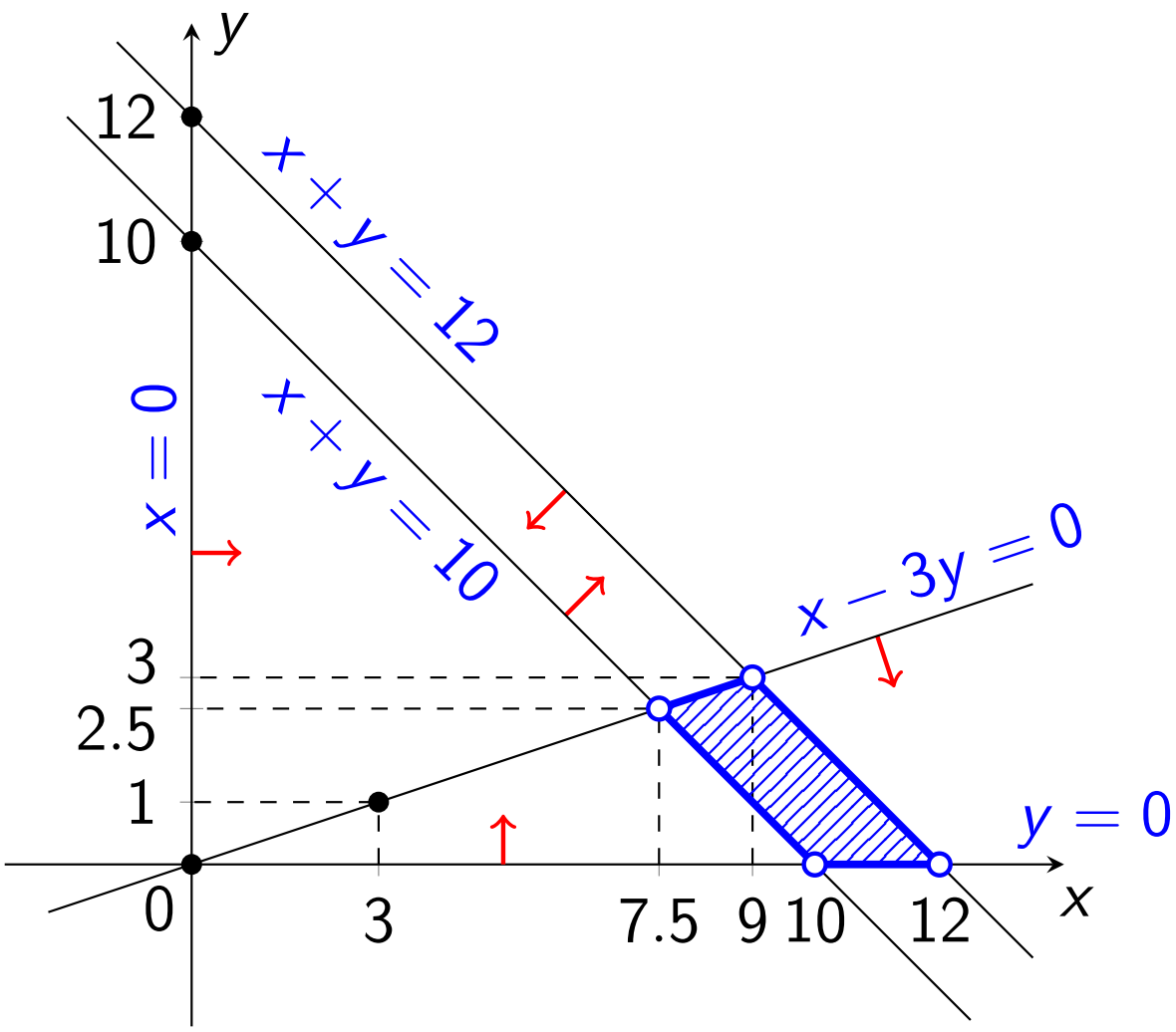
$$x - 3y = 0$$

$$x = 0 \rightsquigarrow y = 0$$

$$y = 1 \rightsquigarrow x = 3$$

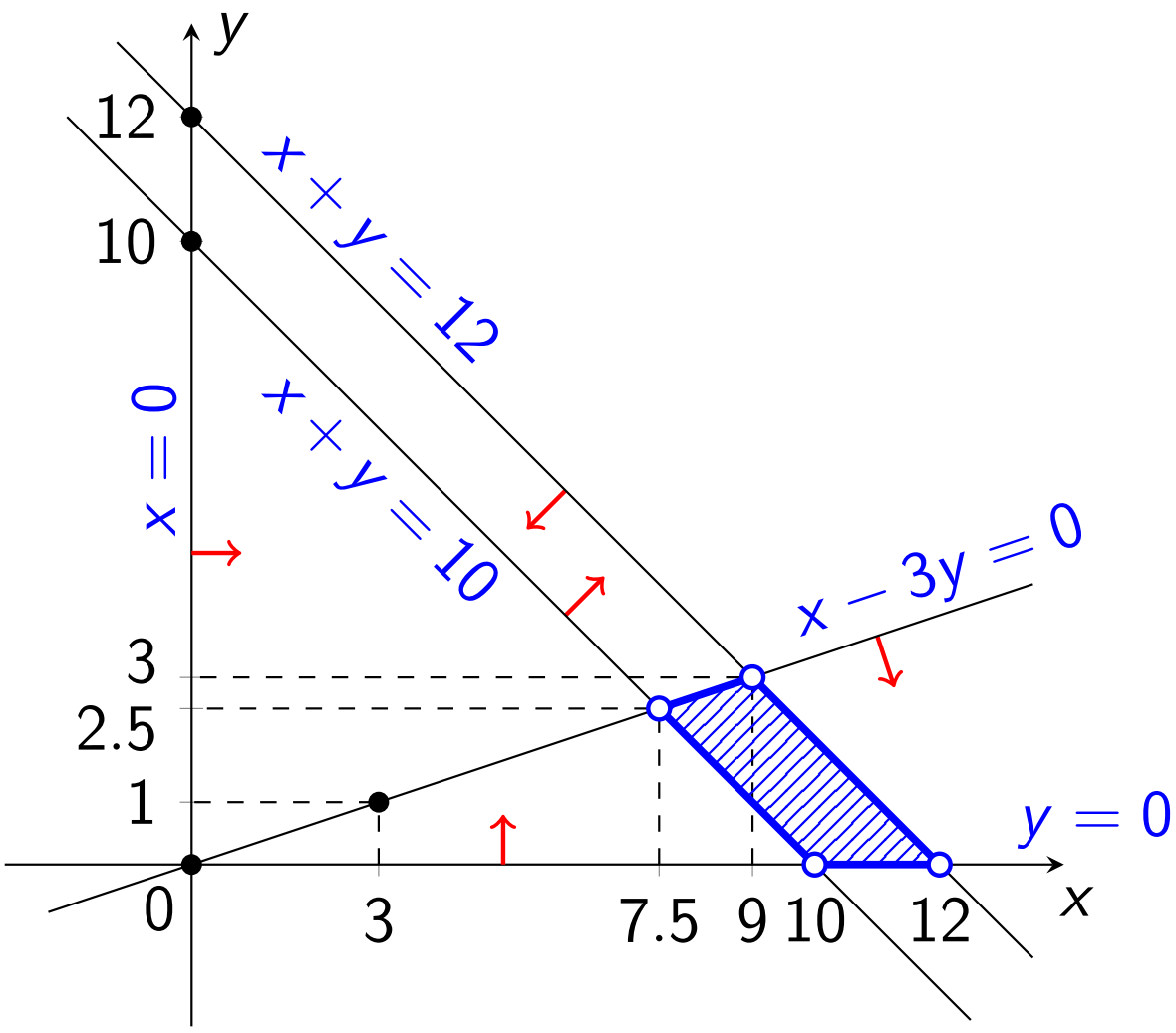


$$K = 1.44 - 0.05x - 0.04y$$



Vršna rješenja

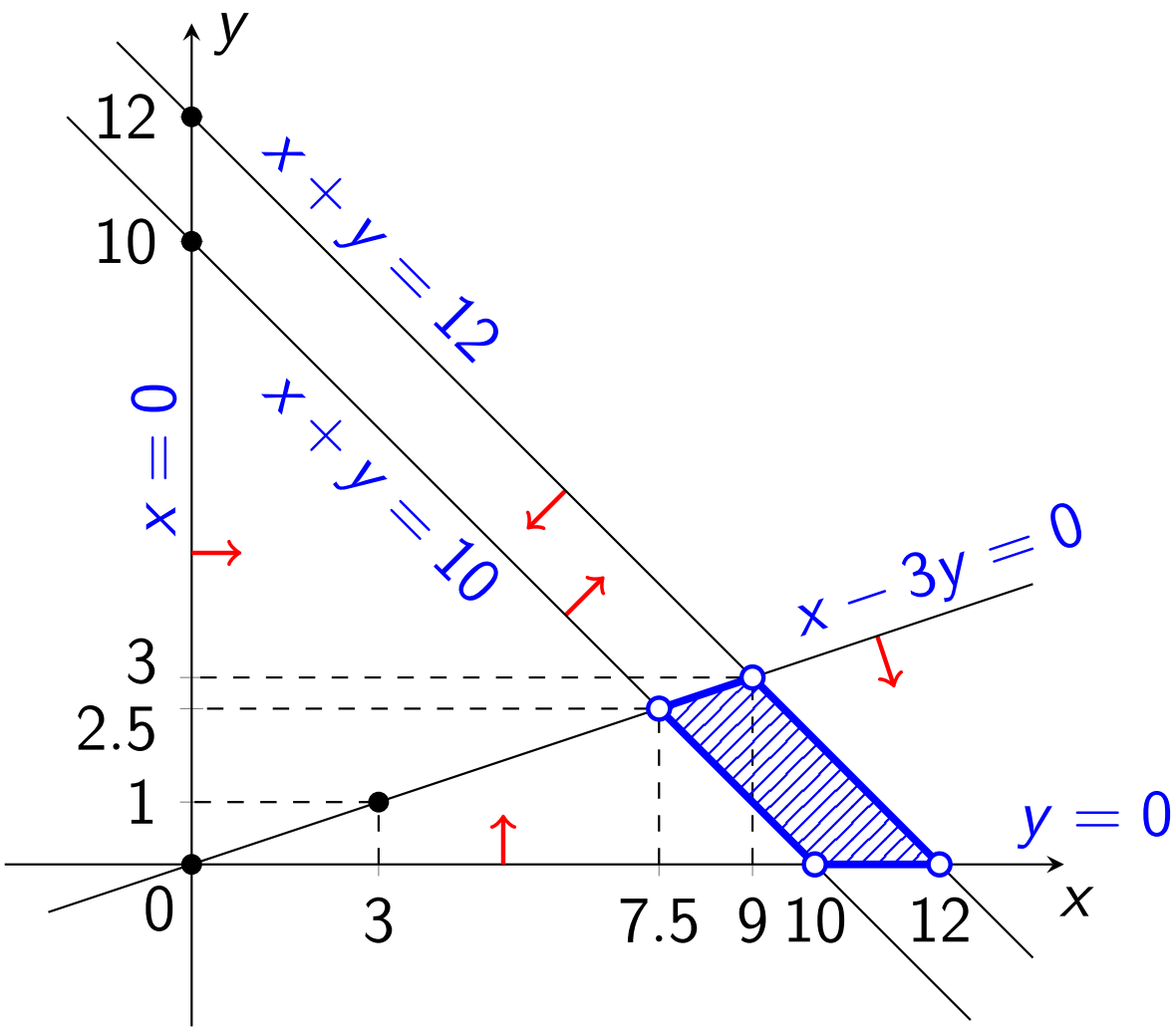
$$K = 1.44 - 0.05x - 0.04y$$



Vršna rješenja

$(10, 0)$

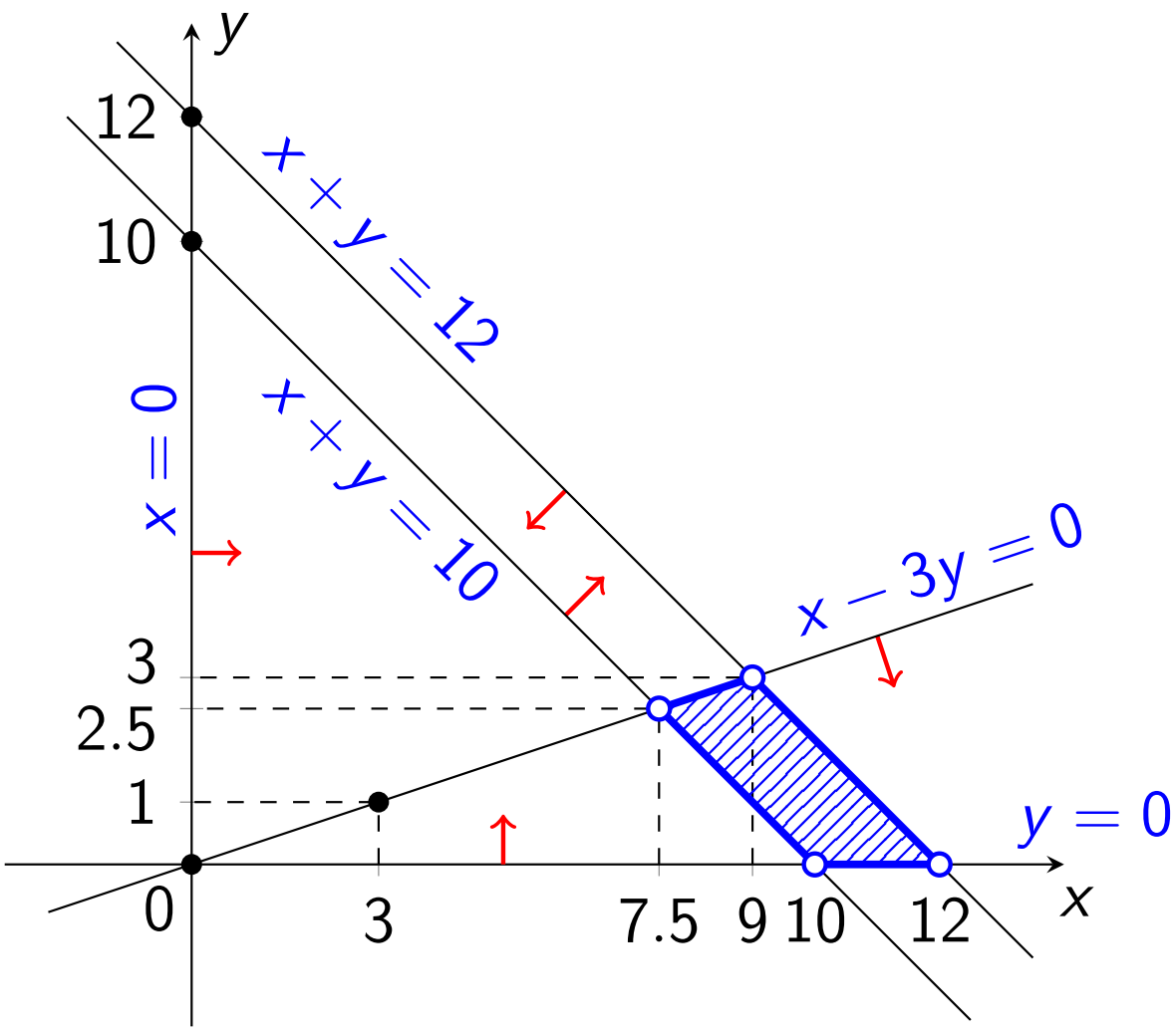
$$K = 1.44 - 0.05x - 0.04y$$



Vršna rješenja

$(10, 0),\ (12, 0)$

$K = 1.44 - 0.05x - 0.04y$

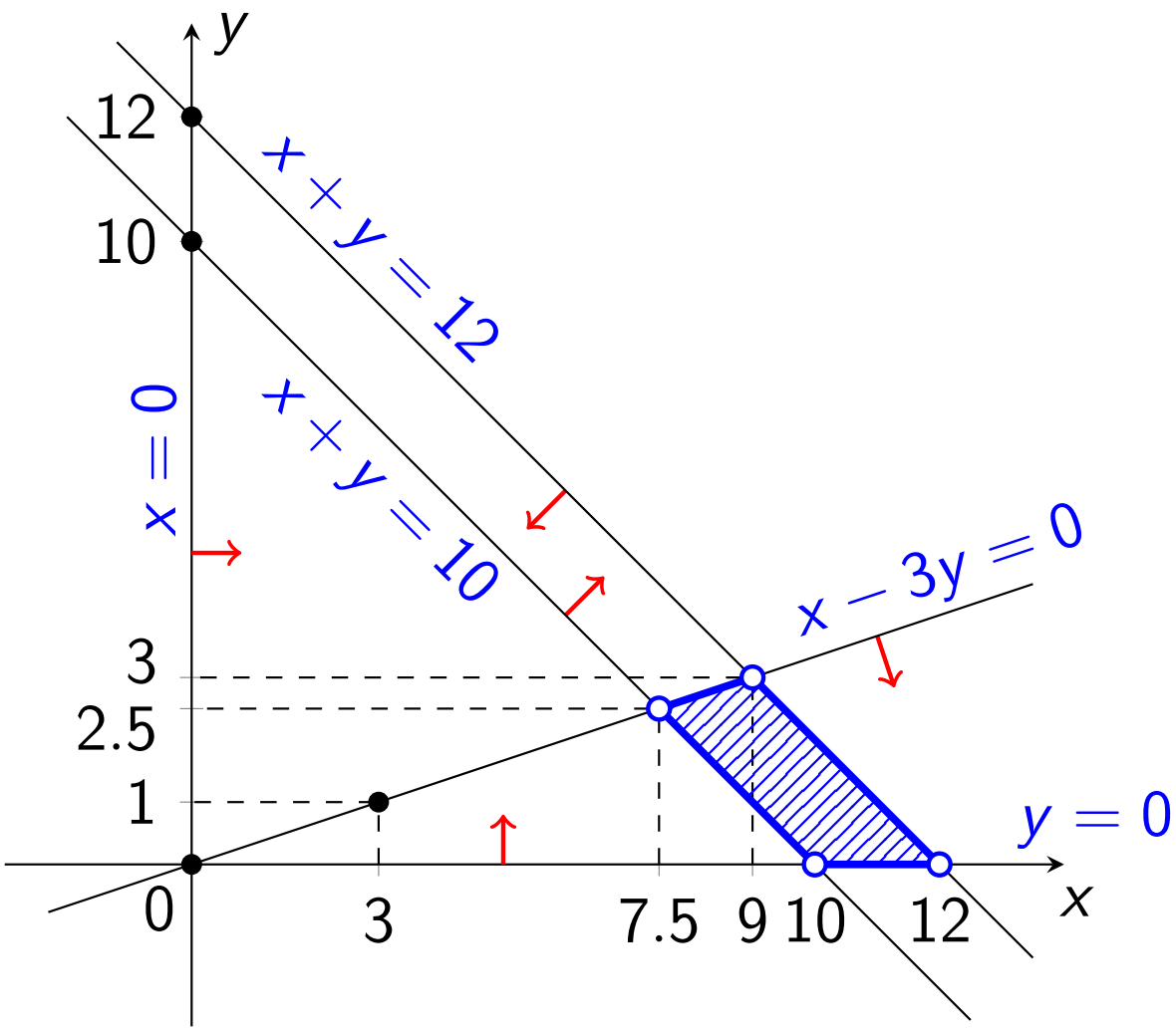


Vršna rješenja

$(10, 0),\ (12, 0),$

$(7.5, 2.5)$

$K = 1.44 - 0.05x - 0.04y$

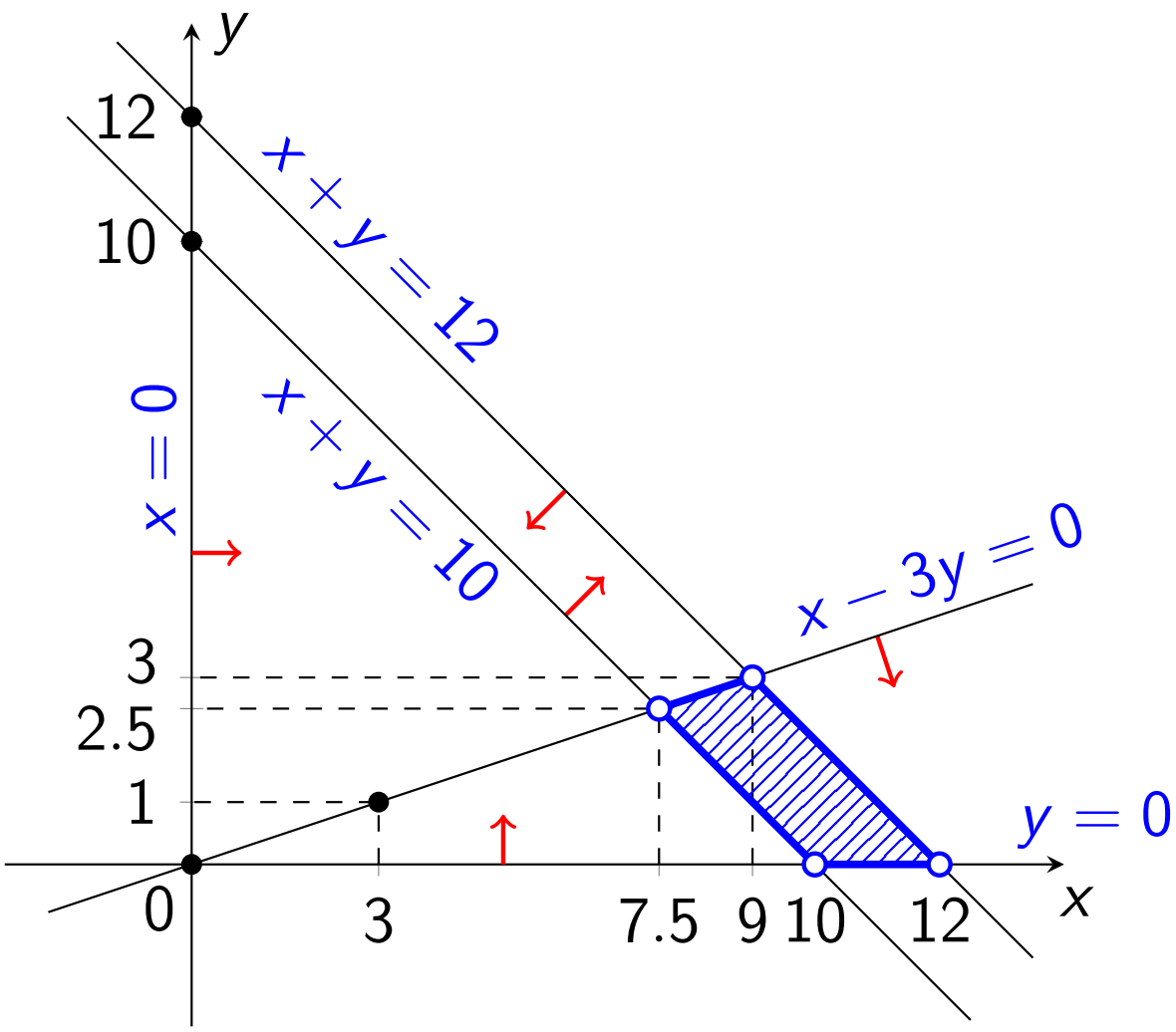


Vršna rješenja

$(10, 0),\ (12, 0),$

$(7.5, 2.5),\ (9, 3)$

$K = 1.44 - 0.05x - 0.04y$



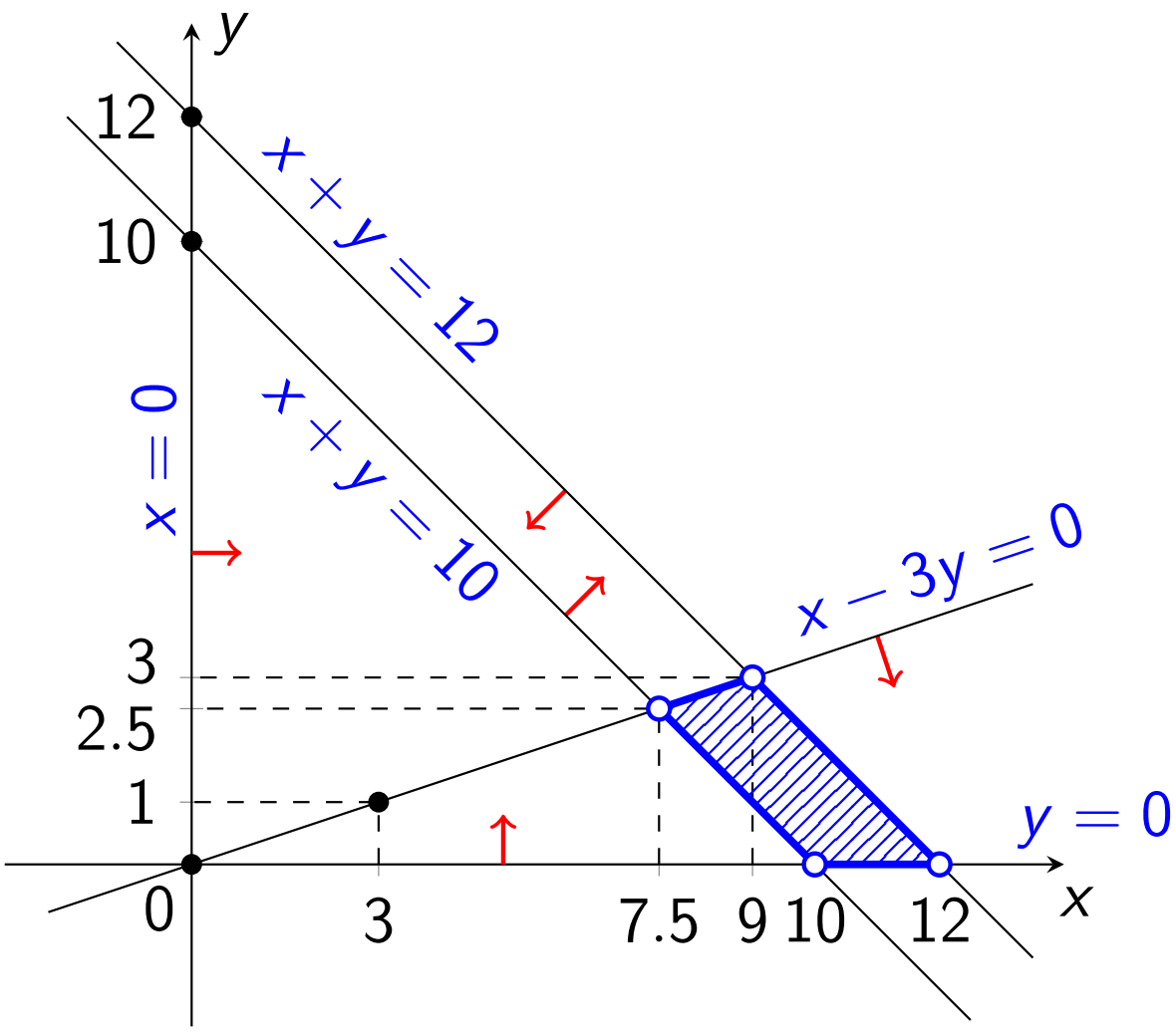
Vršna rješenja

$(10, 0),\ (12, 0),$

$(7.5, 2.5),\ (9, 3)$

$K(x, y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$



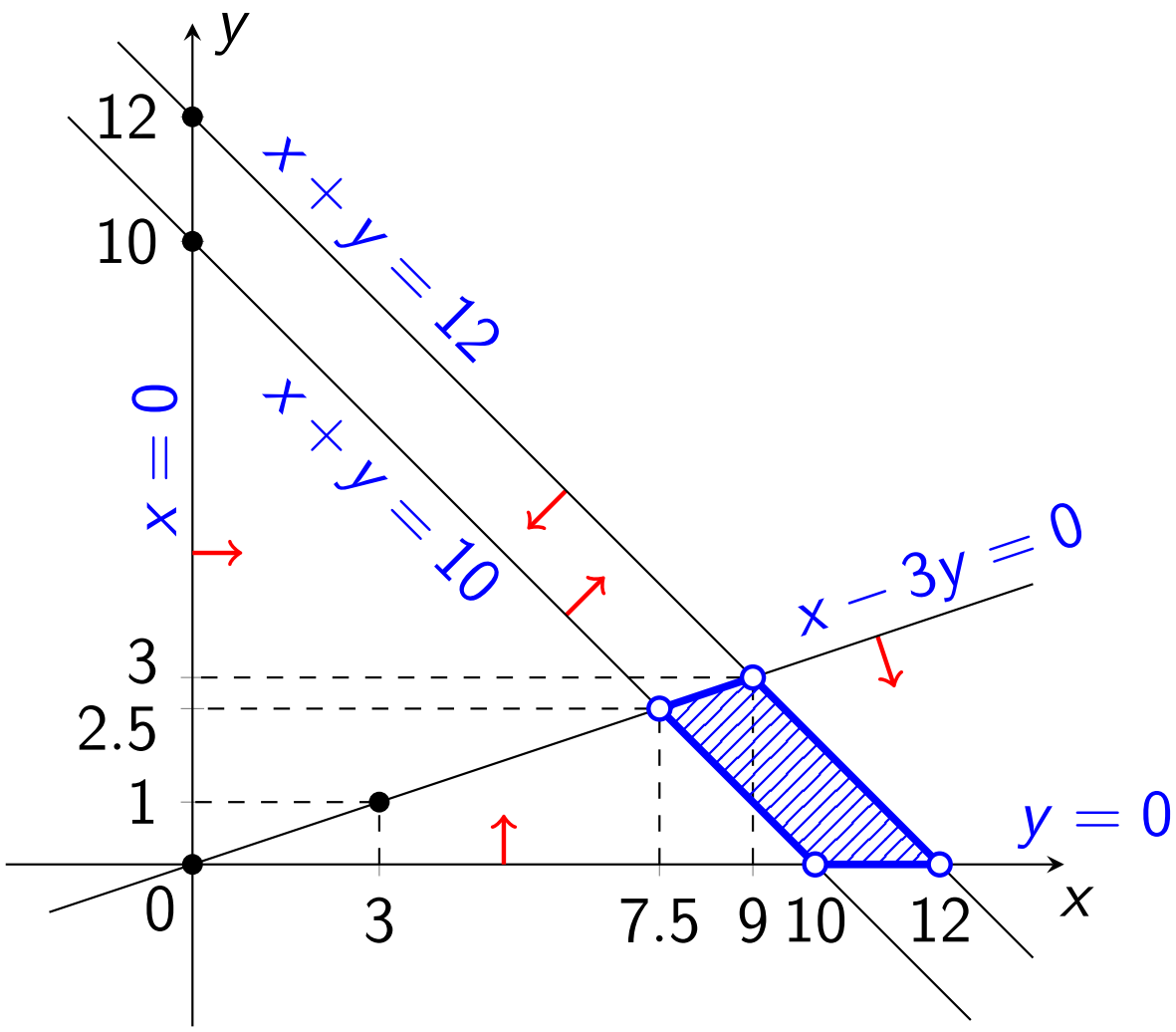
Vršna rješenja

$(10, 0),\ (12, 0),$

$(7.5, 2.5),\ (9, 3)$

$$K(x, y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$



Vršna rješenja

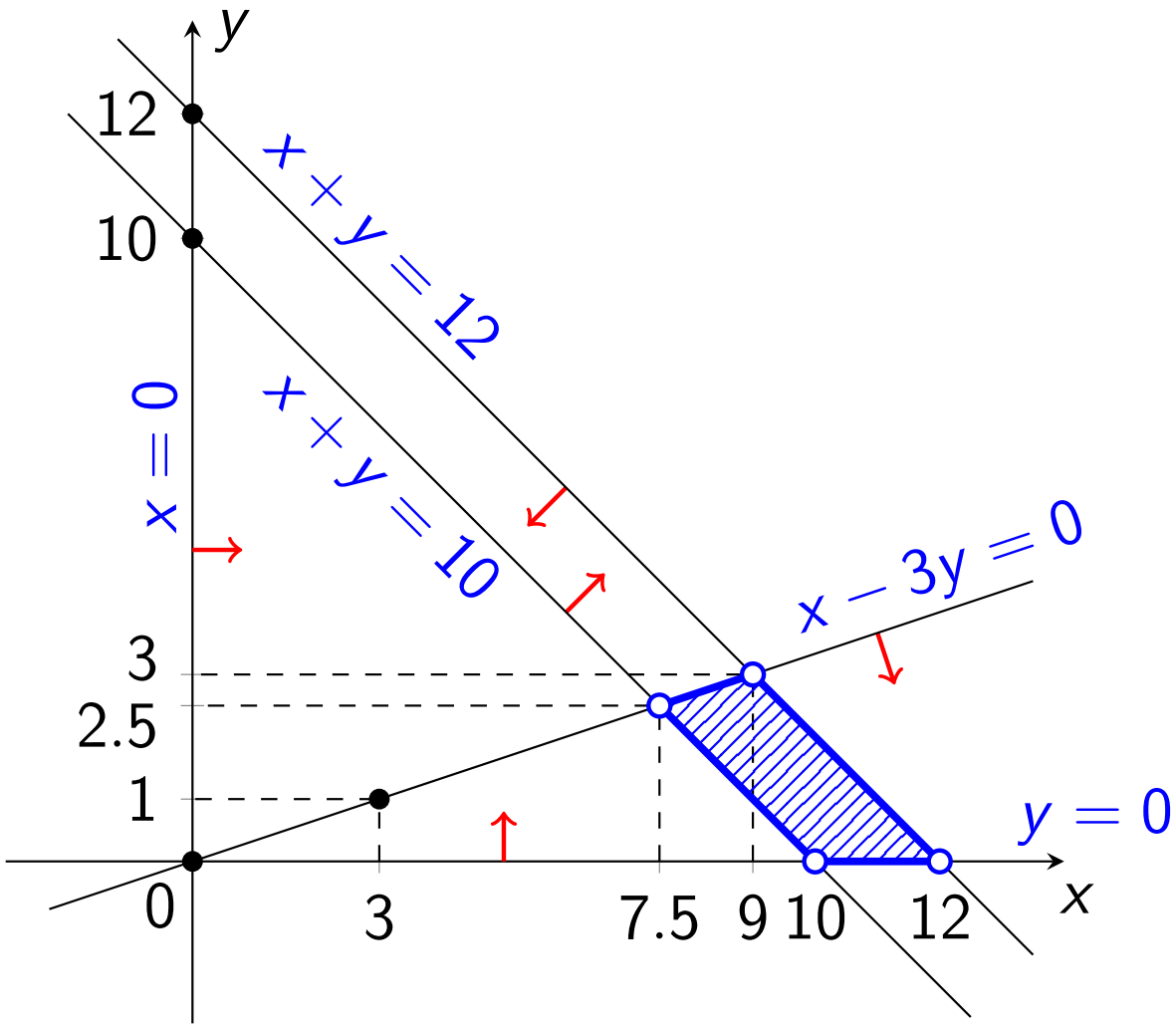
$\underset{x}{(10}\ \underset{y}{0}), \quad \underset{x}{(12}\ \underset{y}{0}),$

$\underset{x}{(7.5}\ \underset{y}{2.5}), \quad \underset{x}{(9}\ \underset{y}{3})$

$$K(x, y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$K(10,0) =$



Vršna rješenja

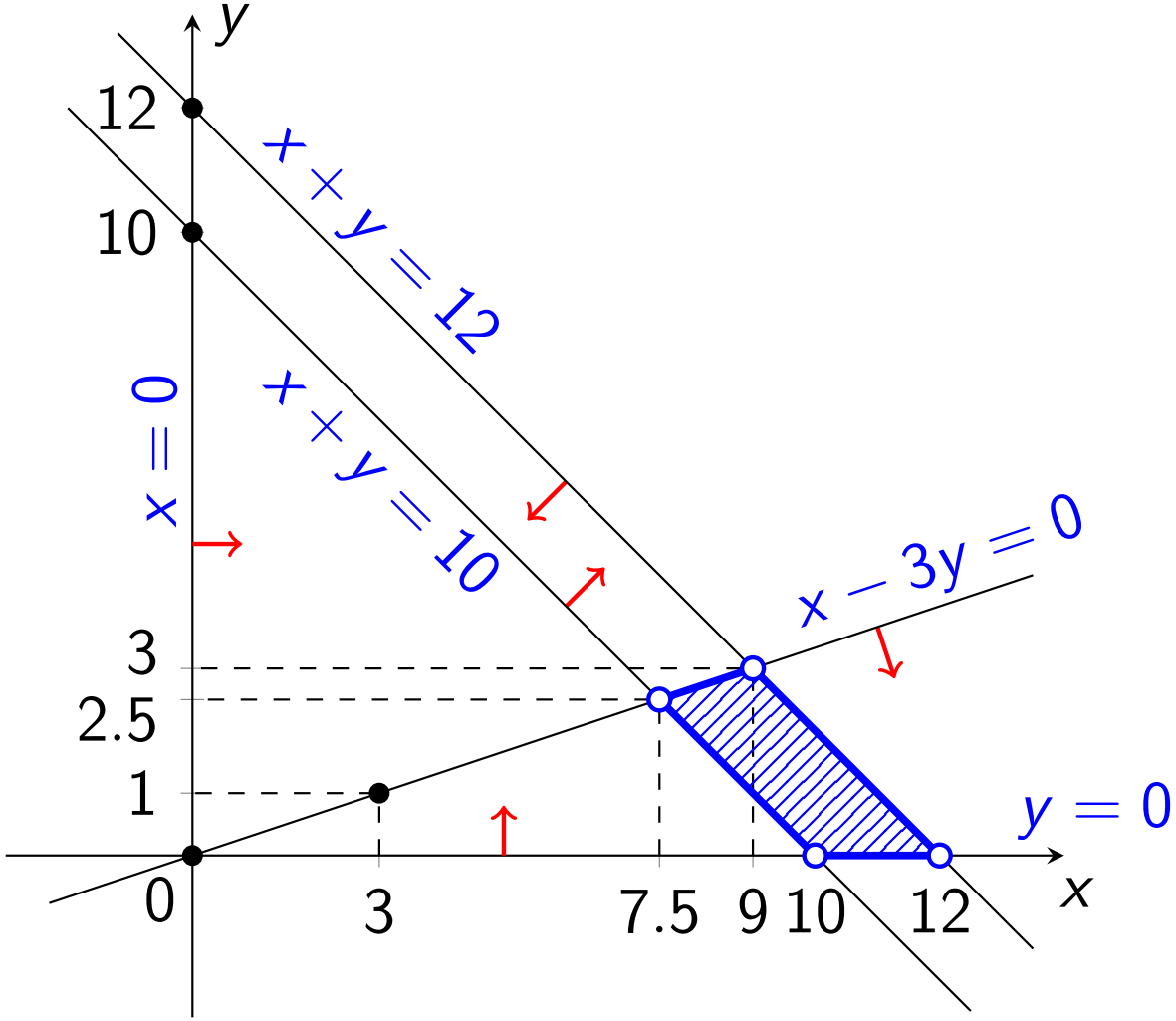
$(10,0)$, $(12,0)$,

$(7.5,2.5)$, $(9,3)$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0$$



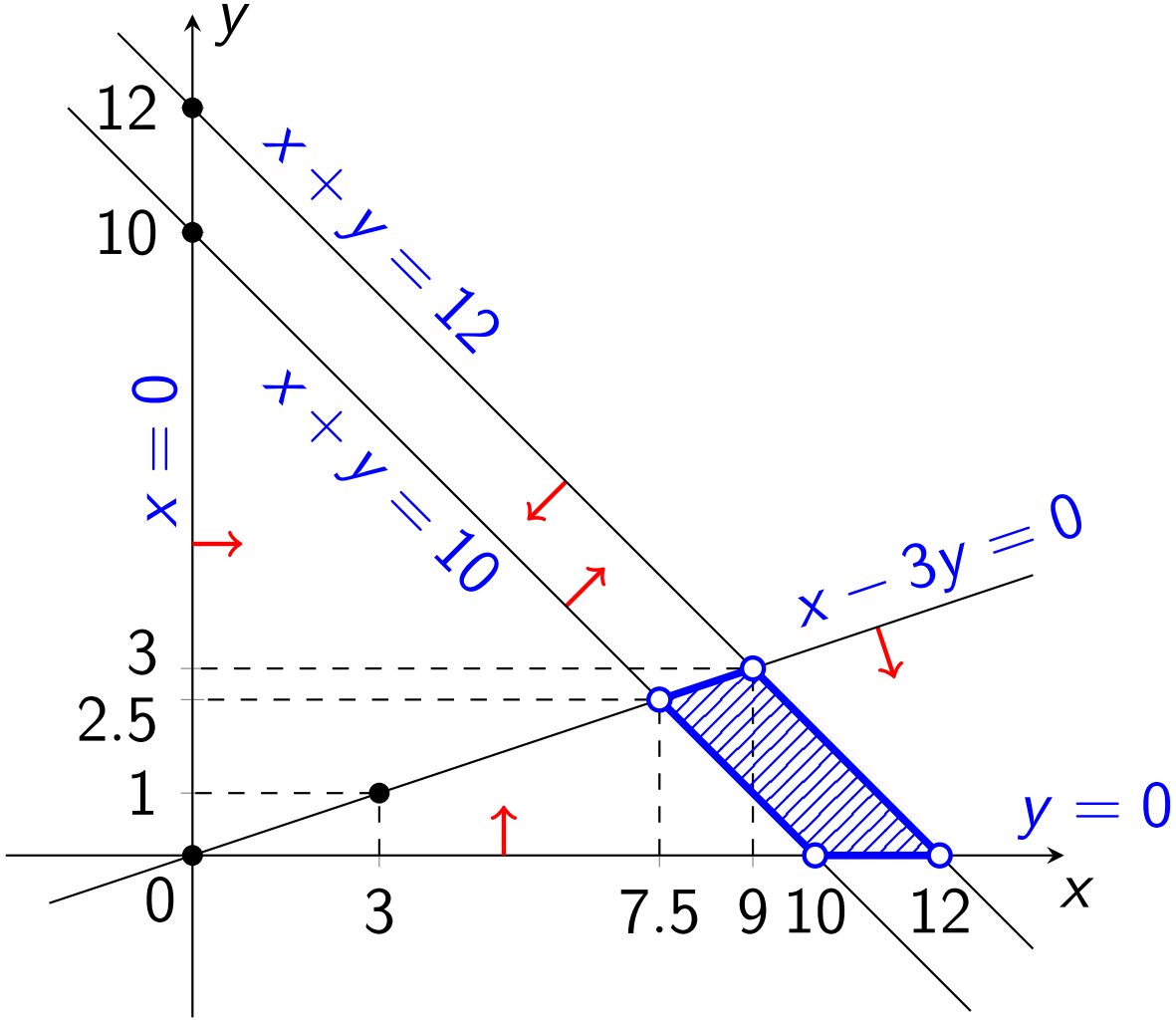
Vršna rješenja

(x, y) (x, y)
$(10, 0)$, $(12, 0)$,
(x, y) (x, y)
$(7.5, 2.5)$, $(9, 3)$

$$K(x, y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}), \quad \underset{x}{(12}\ \underset{y}{0}),$$

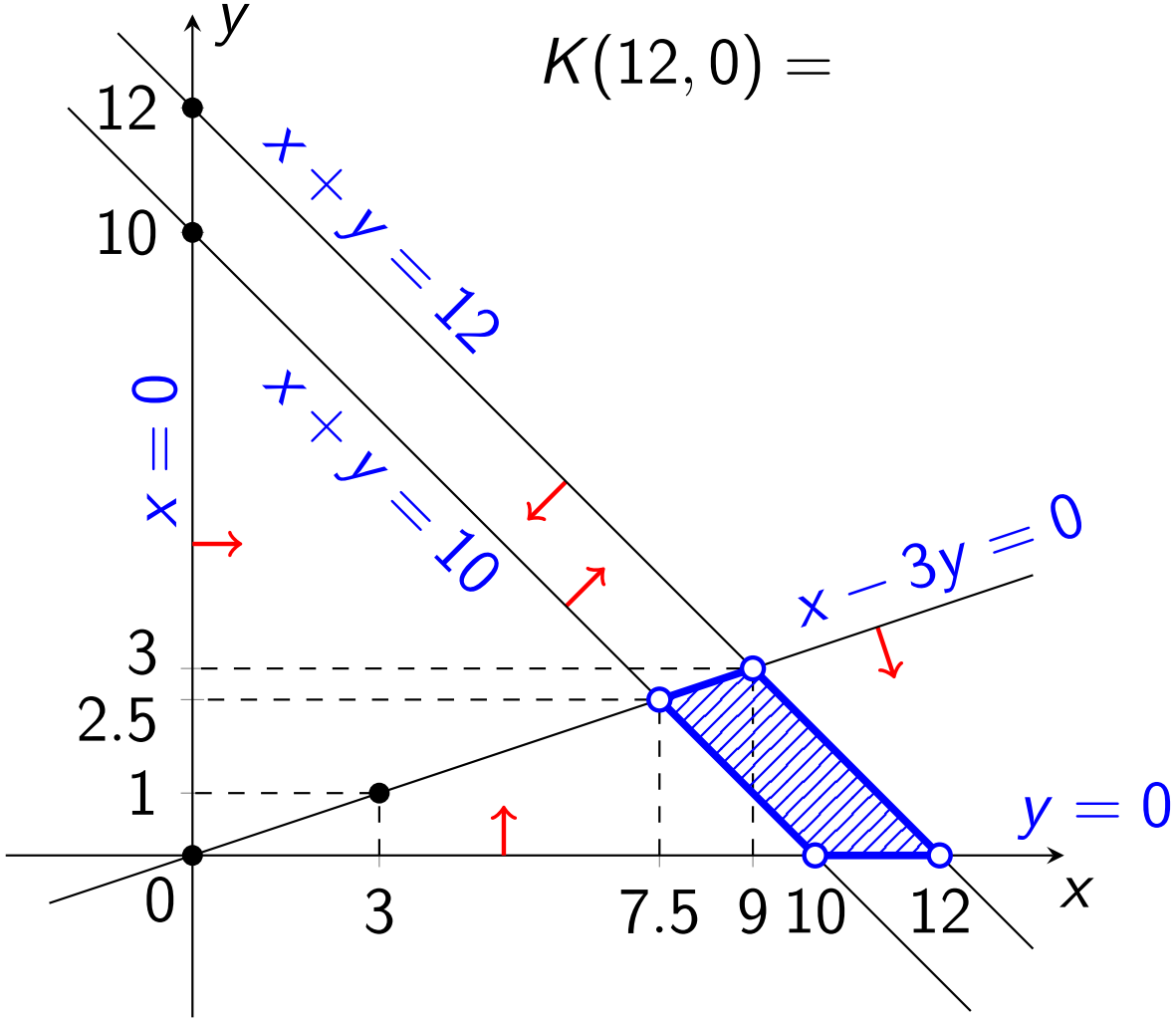
$$\underset{x}{(7.5}\ \underset{y}{2.5}), \quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) =$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}),\quad \underset{x}{(12}\ \underset{y}{0}),$$

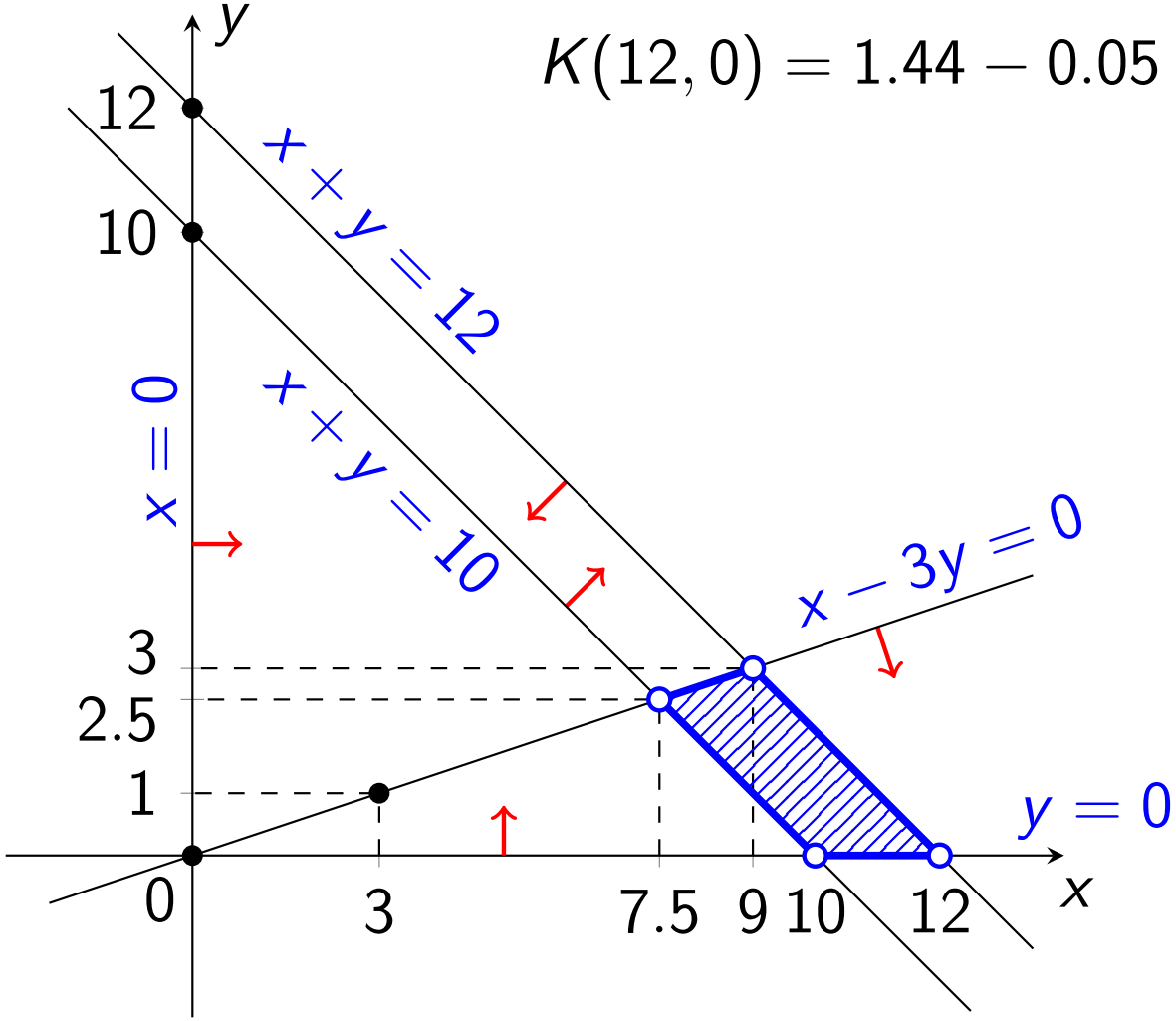
$$\underset{x}{(7.5}\ \underset{y}{2.5}),\quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}),\quad \underset{x}{(12}\ \underset{y}{0}),$$

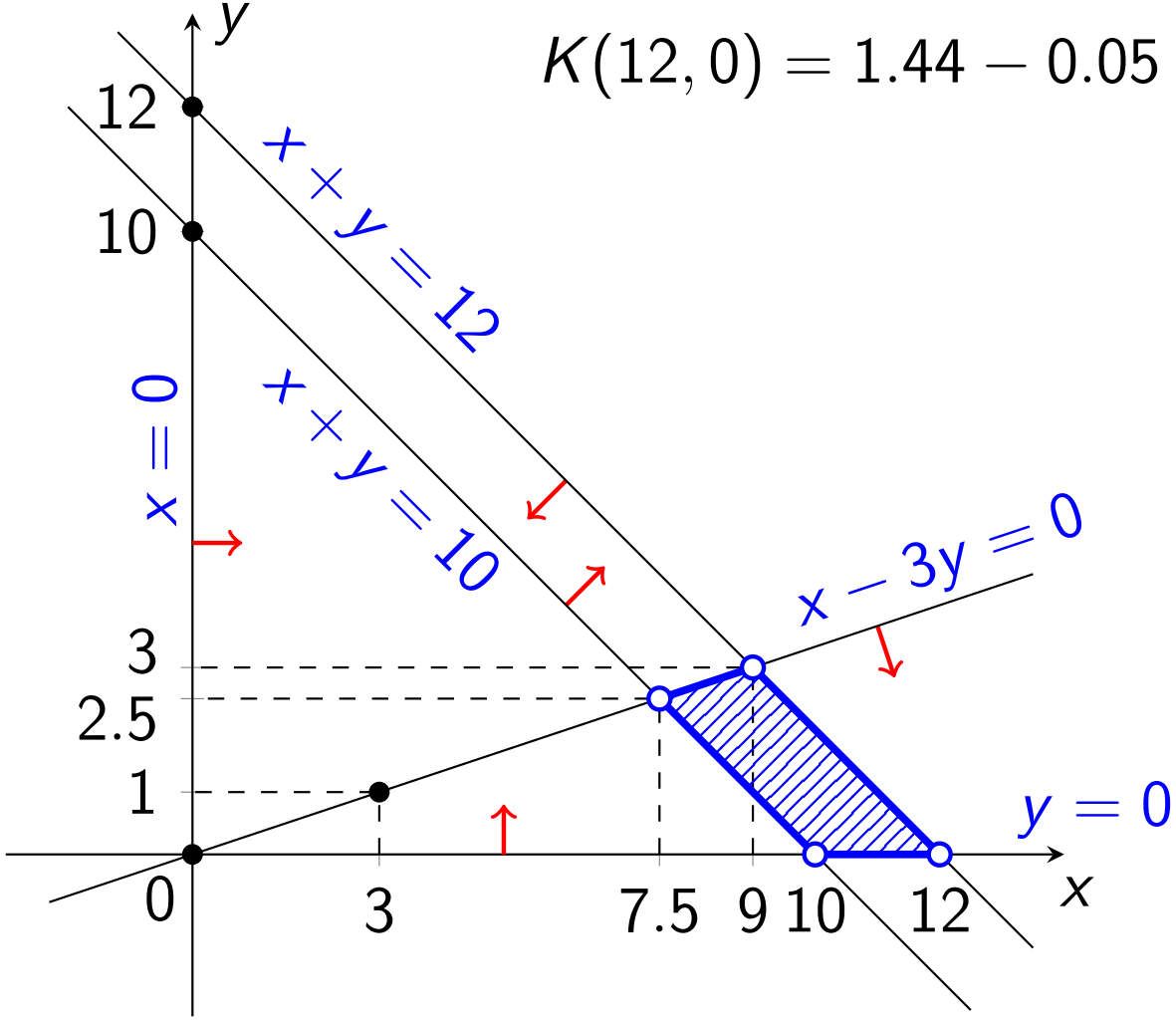
$$\underset{x}{(7.5}\ \underset{y}{2.5}),\quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$



Vršna rješenja

(x, y) $(10, 0)$, (x, y) $(12, 0)$,

(x, y) $(7.5, 2.5)$, (x, y) $(9, 3)$

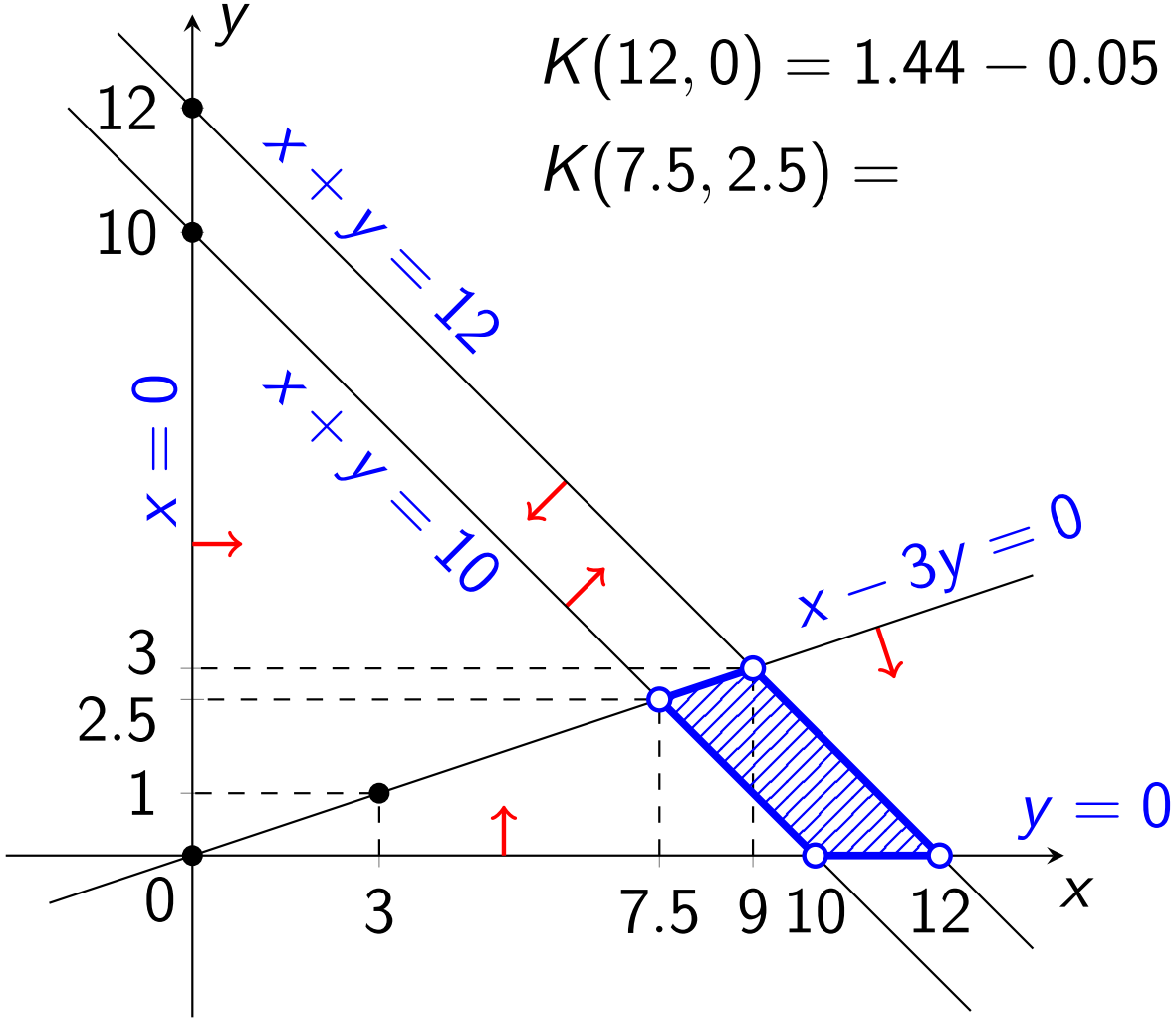
$$K(x, y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) =$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}), \quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}), \quad \underset{x}{(9}\ \underset{y}{3})$$

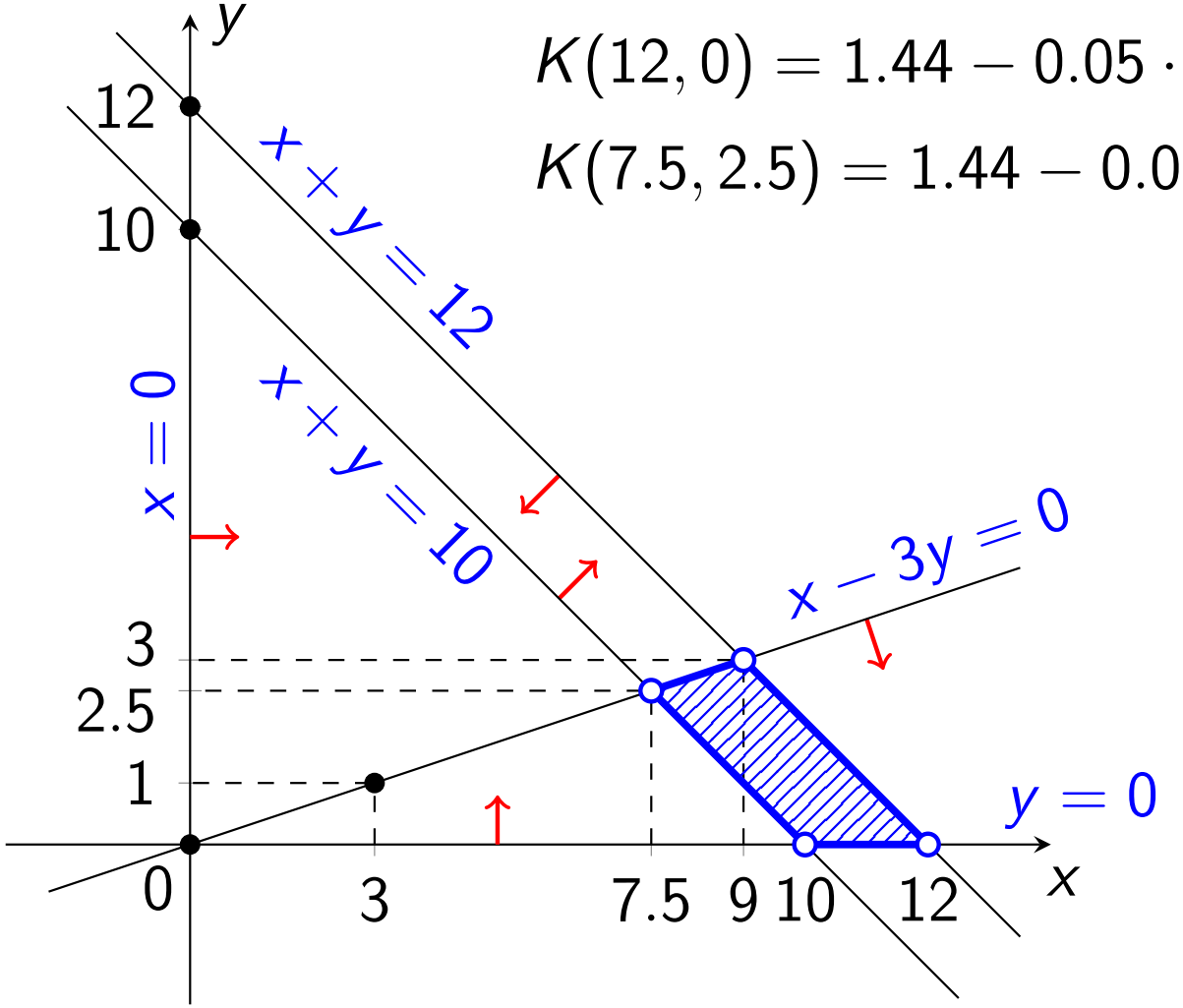
$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5$$



Vršna rješenja

(x, y) (x, y)
$(10, 0)$, $(12, 0)$,

(x, y) (x, y)
$(7.5, 2.5)$, $(9, 3)$

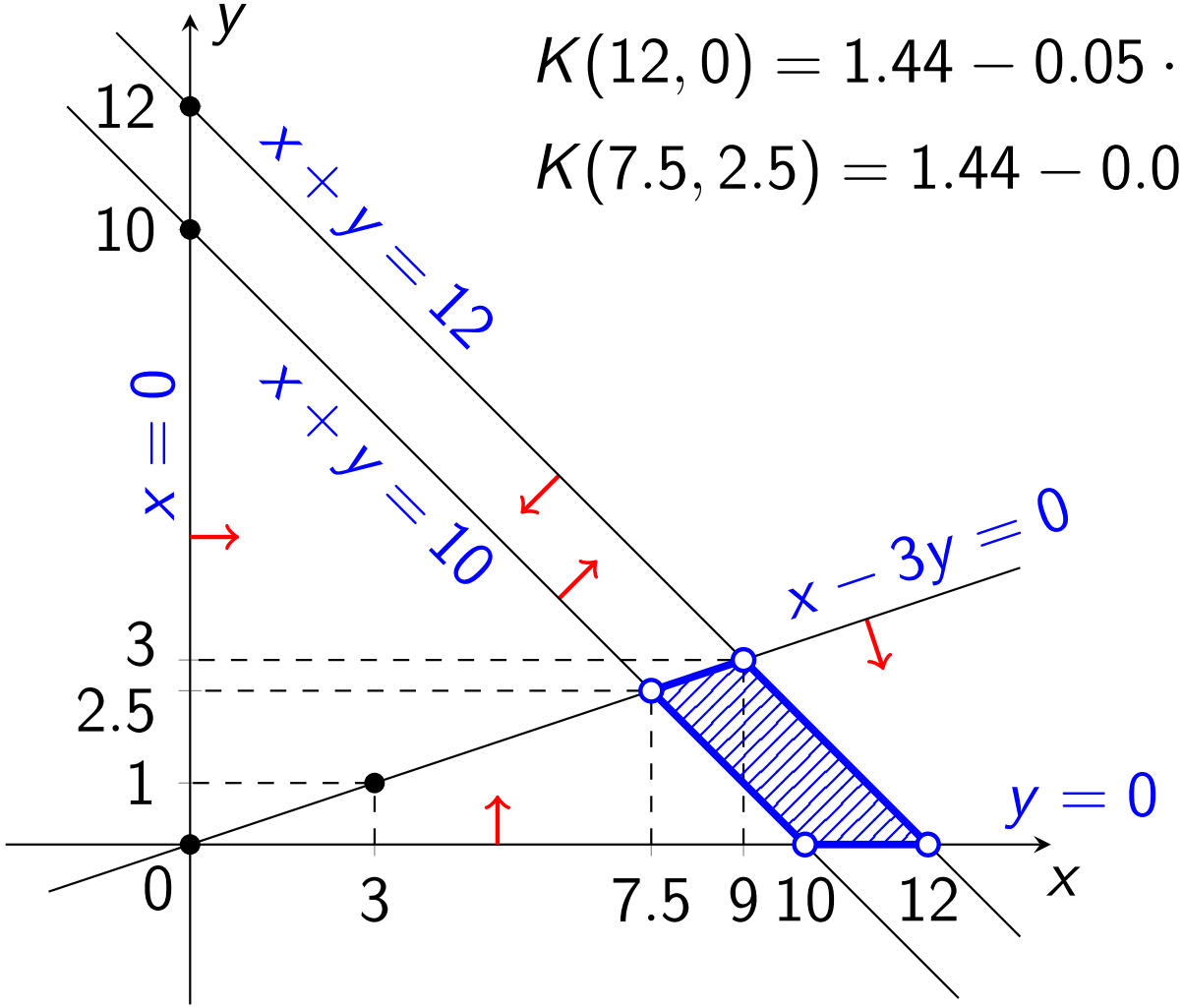
$$K(x, y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}), \quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}), \quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

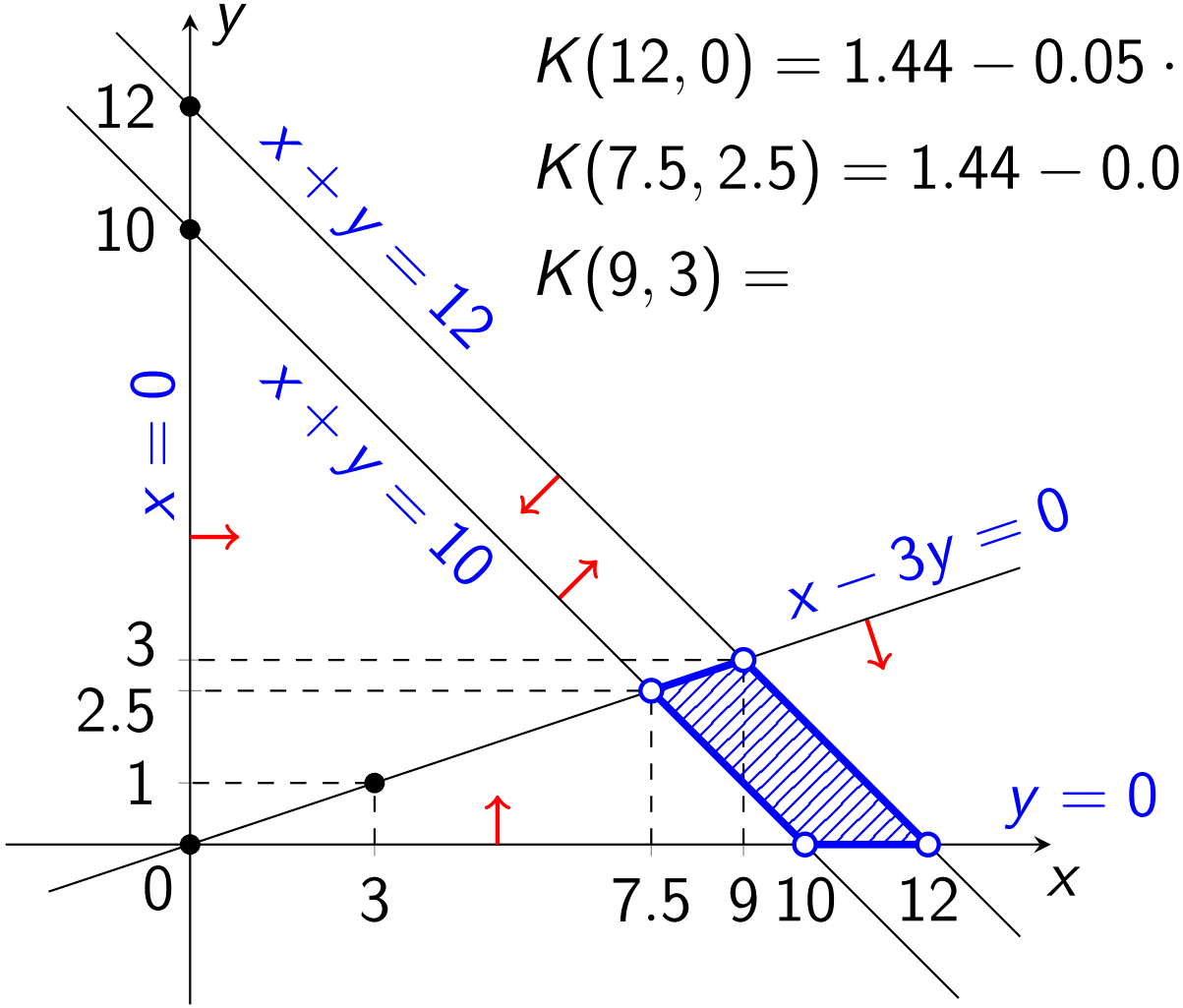
$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) =$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}),\quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}),\quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

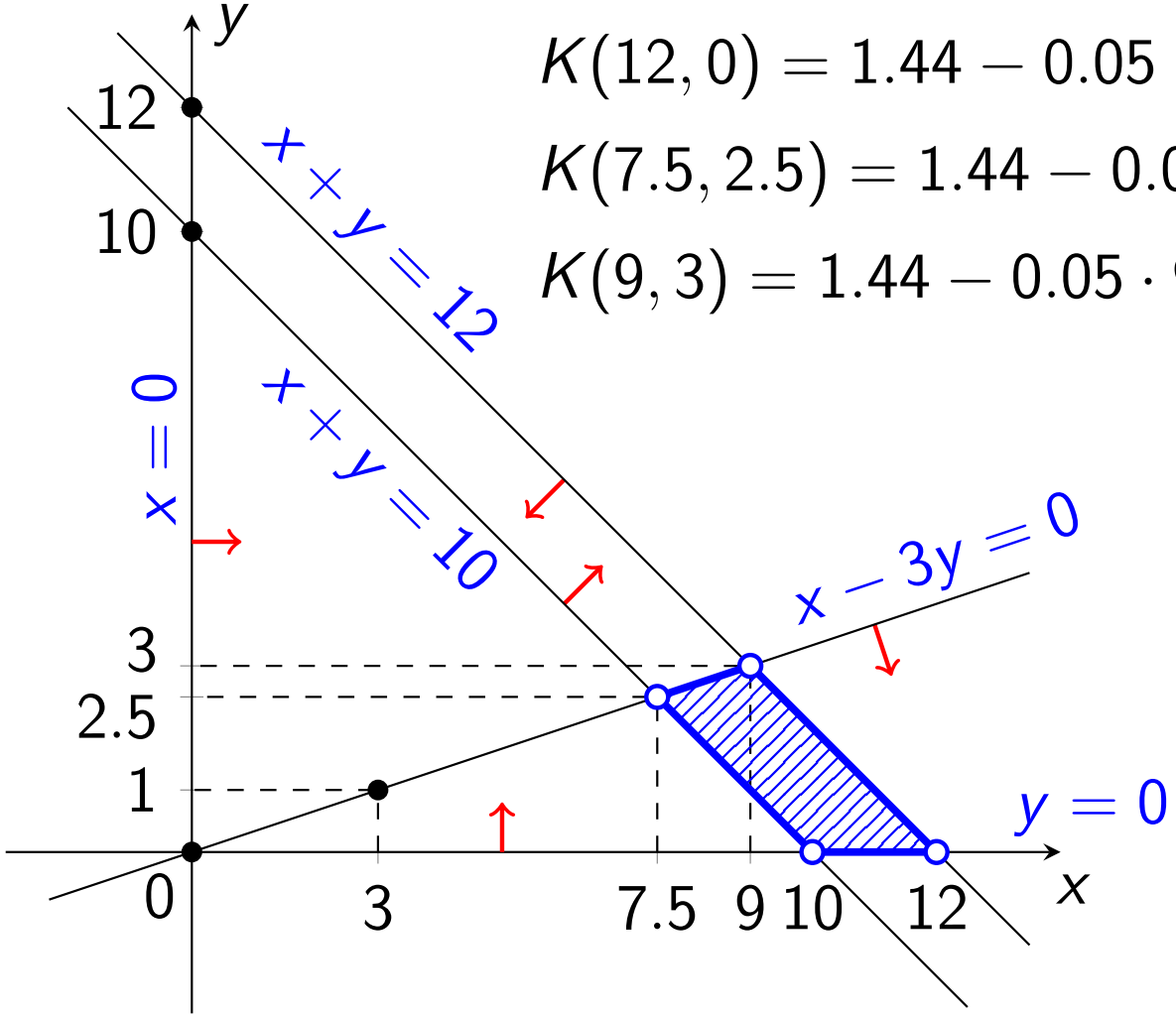
$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}),\quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}),\quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

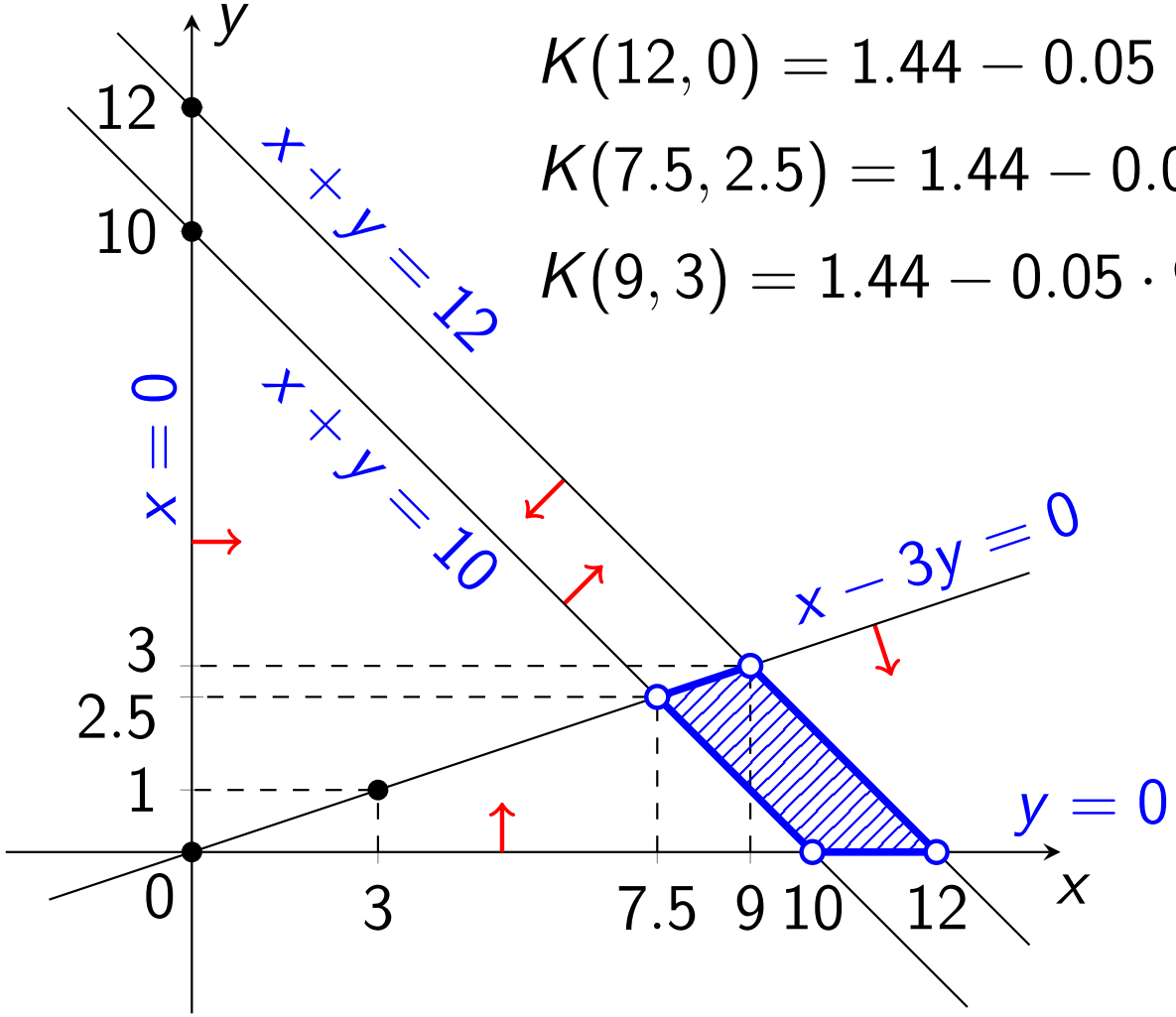
$$K = 1.44 - 0.05x - 0.04y$$

$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$$



Vršna rješenja

$$\underset{x}{(10}\ \underset{y}{0}),\quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}),\quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

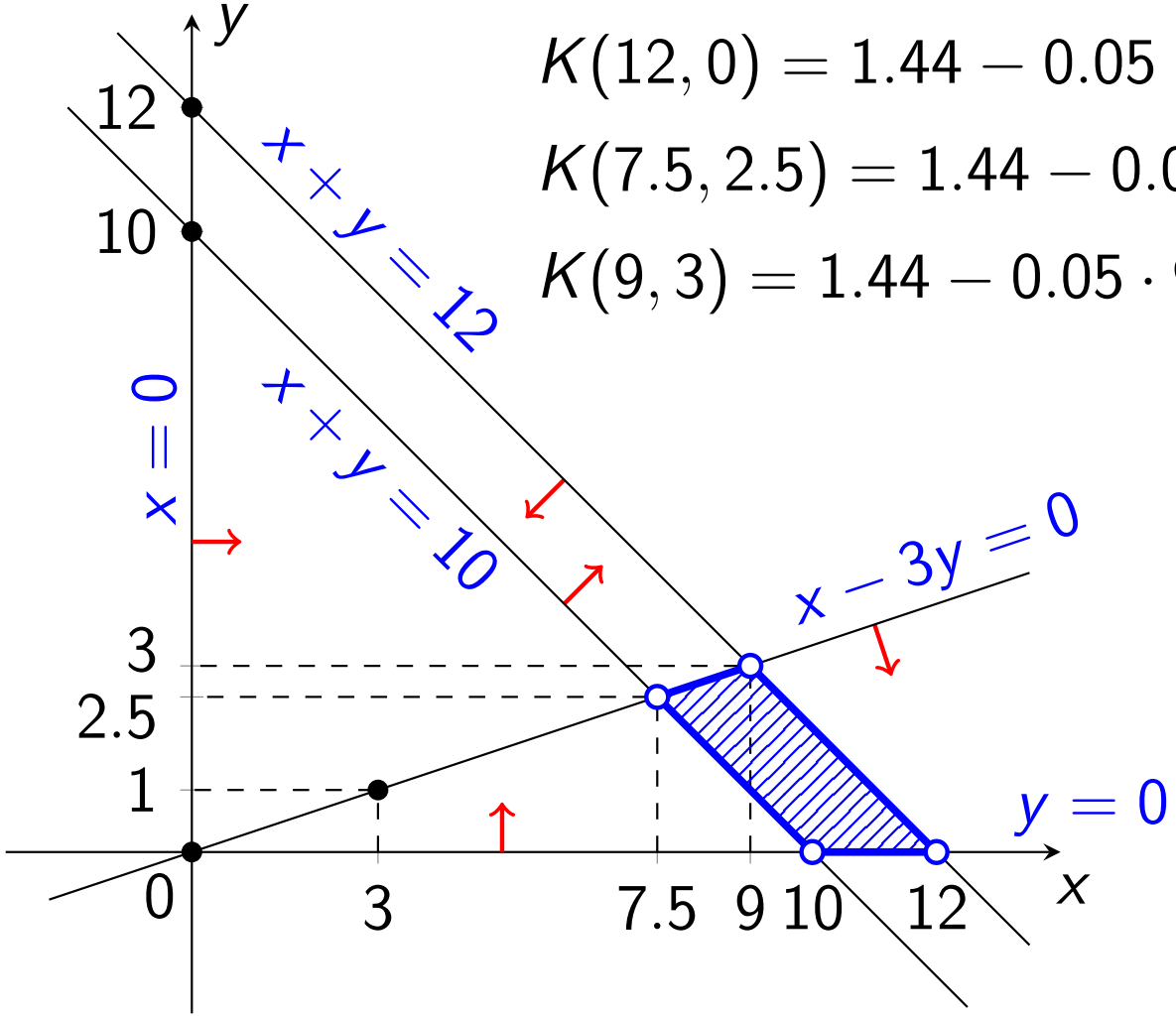
$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$$

MAKSIMUM



Vršna rješenja

(x, y) (x, y)
$(10, 0)$, $(12, 0)$,

(x, y) (x, y)
$(7.5, 2.5)$, $(9, 3)$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

MINIMUM

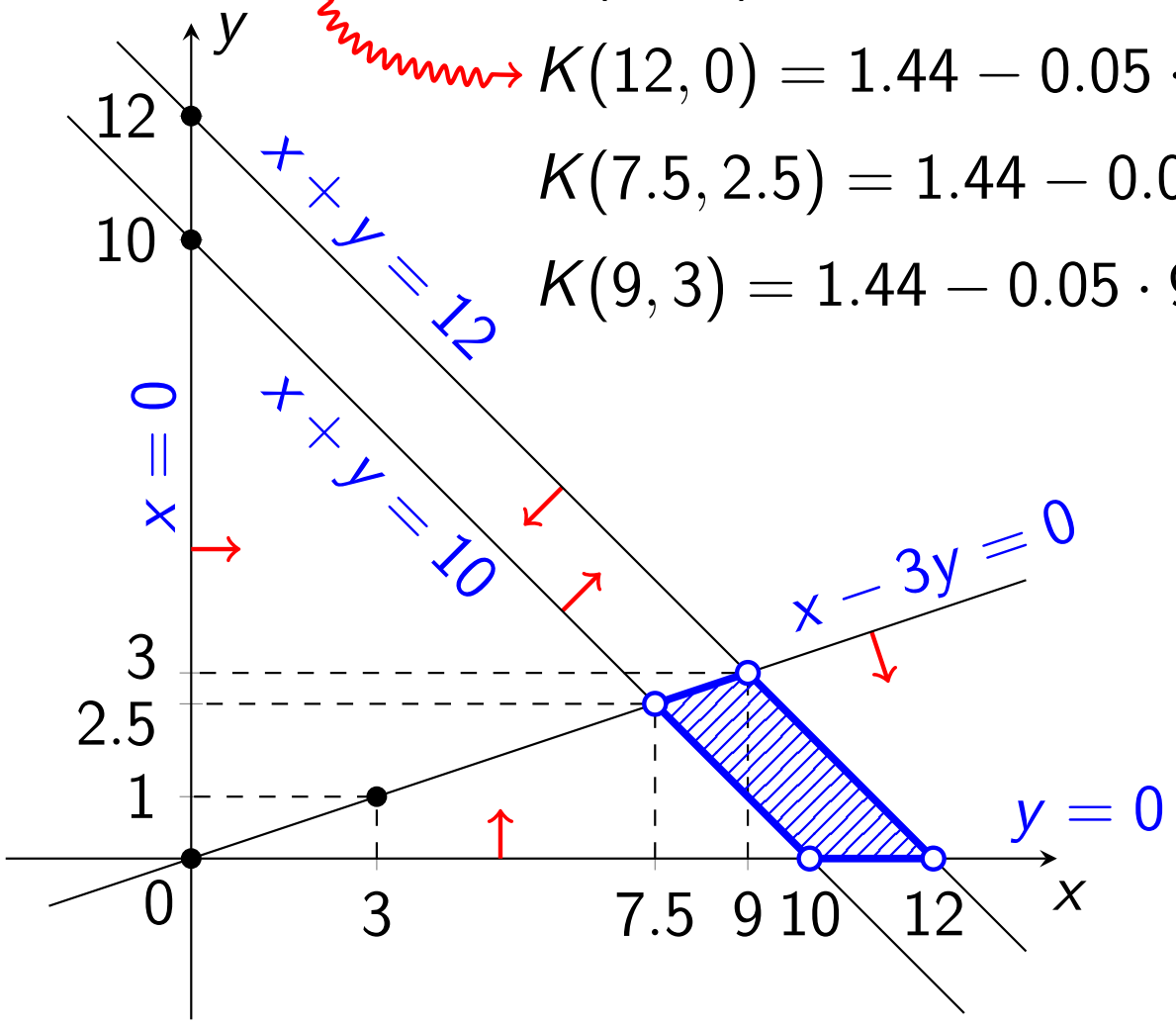
$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

MAKSIMUM



Vršna rješenja

$(10,0)$, $(12,0)$,

$(7.5,2.5)$, $(9,3)$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

MINIMUM

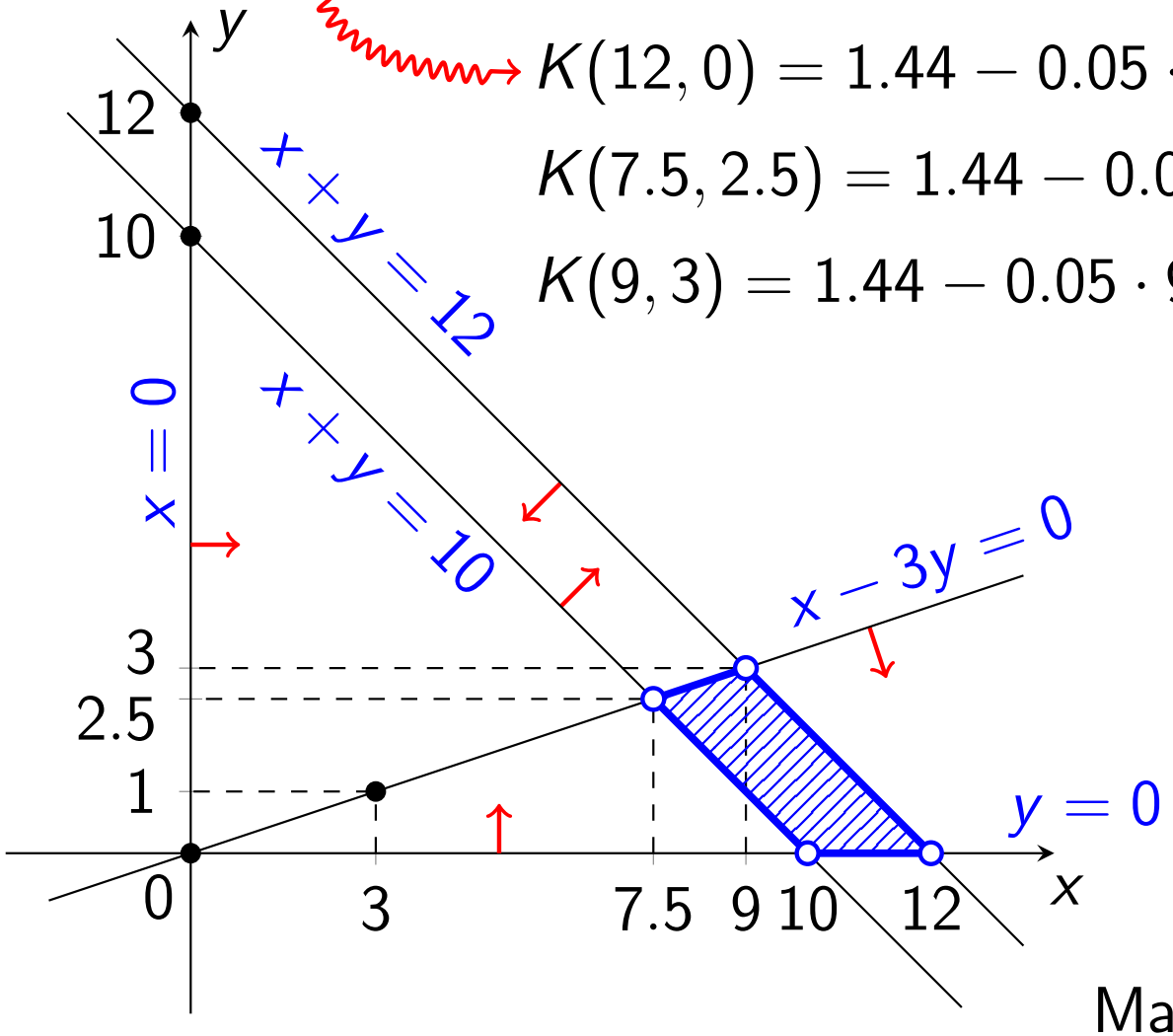
$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

MAKSIMUM



Vršna rješenja

$(10,0)$, $(12,0)$, $(7.5,2.5)$, $(9,3)$

Maksimalna zarada iznosi 965 €

$K(x,y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$

MINIMUM

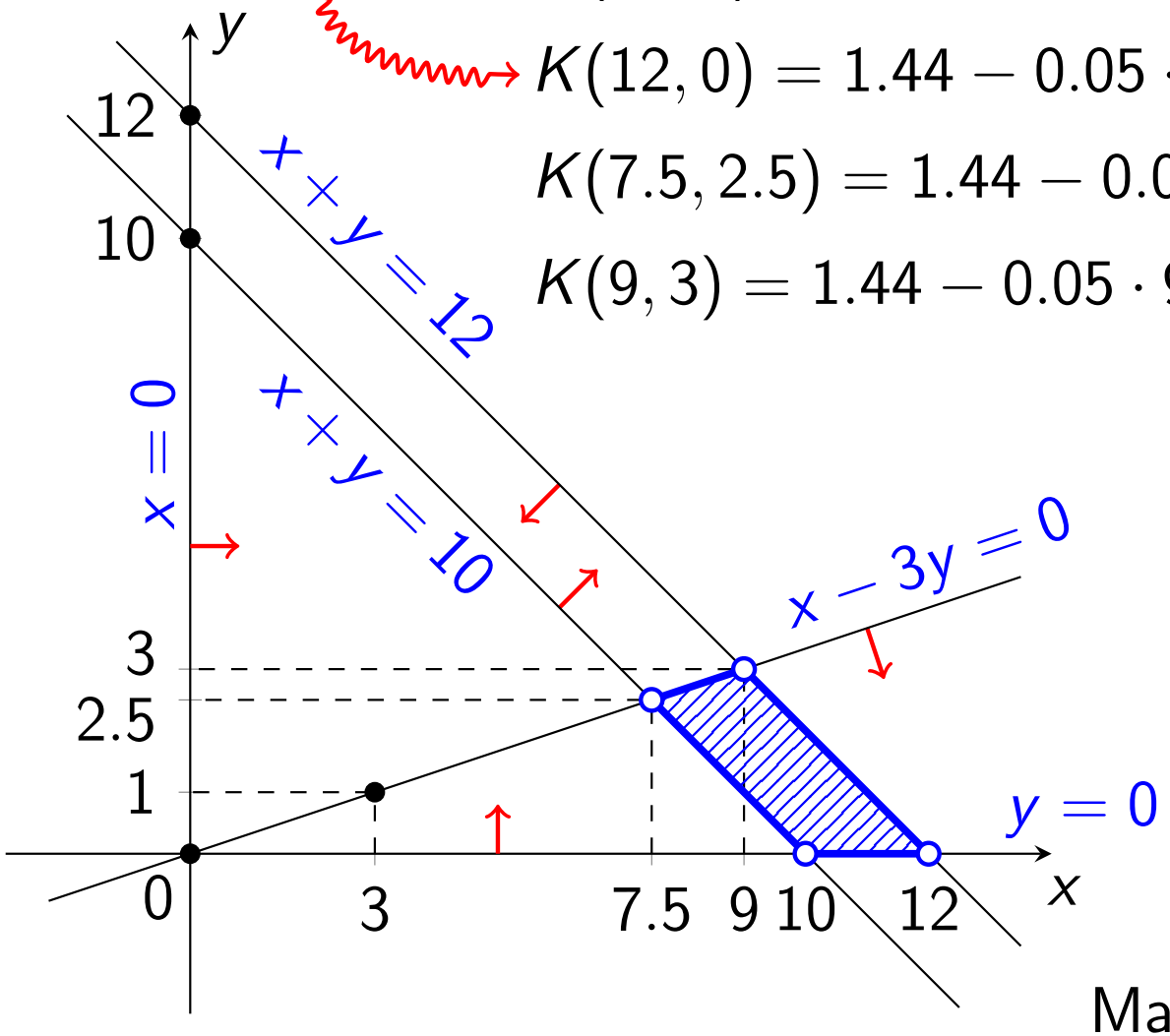
$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

MAKSIMUM



Vršna rješenja

$(10,0)$, $(12,0)$, $(7.5,2.5)$, $(9,3)$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €,

$K(x,y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$

MINIMUM

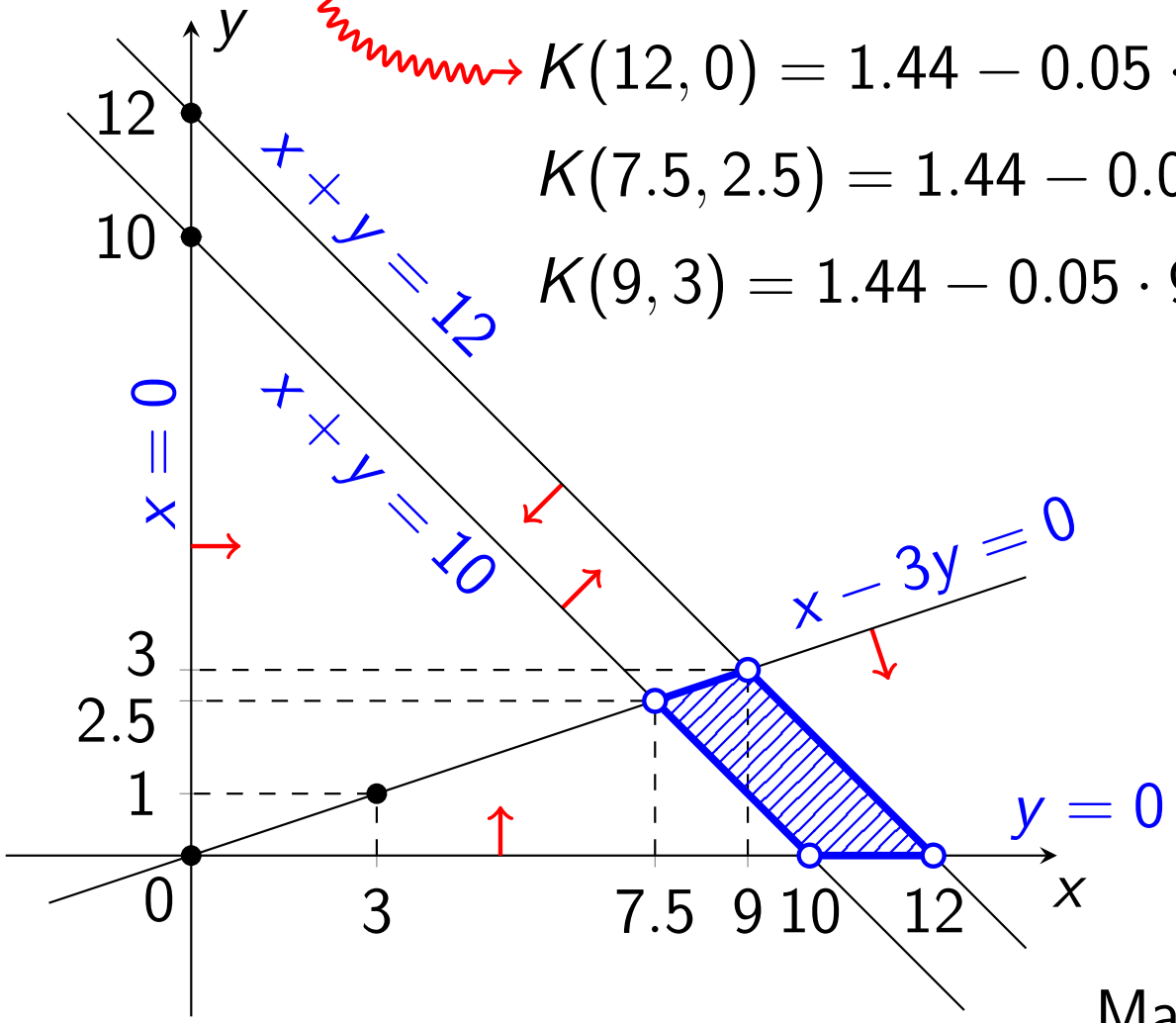
$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$$

MAKSIMUM



Vršna rješenja

$$\begin{matrix} x & y \\ (10,0), \end{matrix} \quad \begin{matrix} x & y \\ (12,0), \end{matrix}$$

$$\begin{matrix} x & y \\ (7.5,2.5), \end{matrix} \quad \begin{matrix} x & y \\ (9,3) \end{matrix}$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €, u 2. fond 2500 €,

MINIMUM

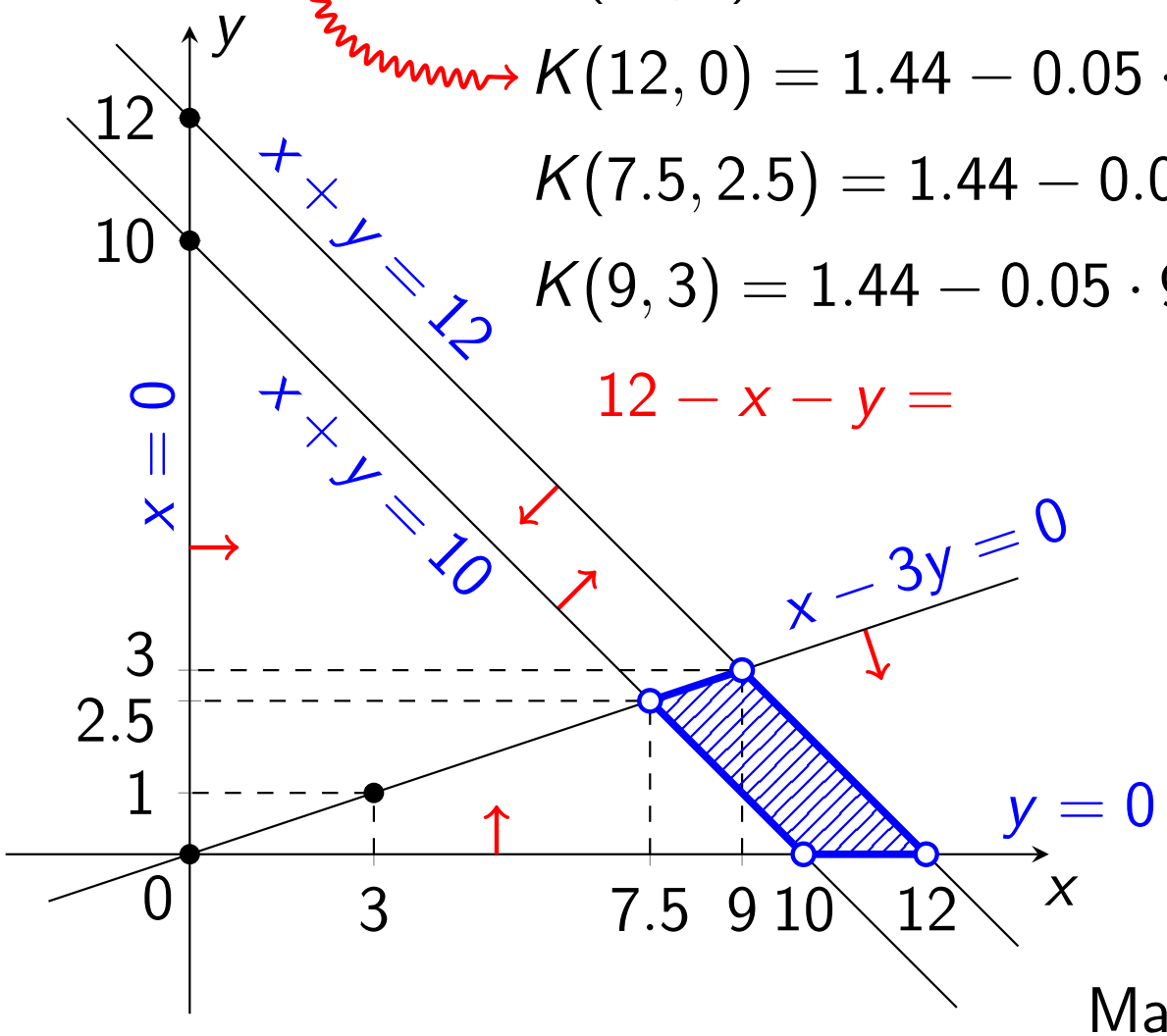
$$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$$

$$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$$

$$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$$

$$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$$

MAKSIMUM



Vršna rješenja

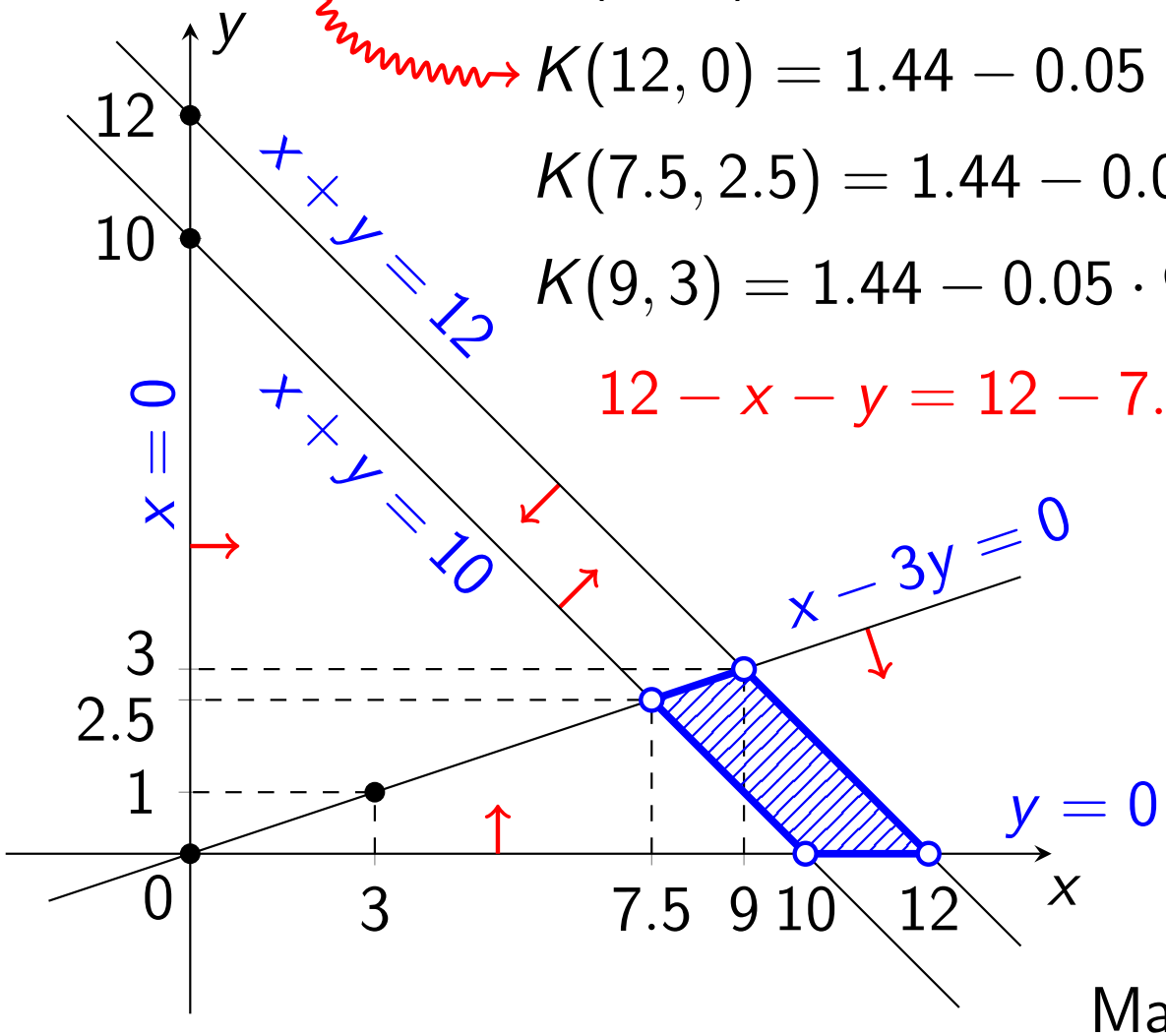
$$\underset{x}{(10}\ \underset{y}{0}), \quad \underset{x}{(12}\ \underset{y}{0}),$$

$$\underset{x}{(7.5}\ \underset{y}{2.5}), \quad \underset{x}{(9}\ \underset{y}{3})$$

$$K(x,y) = 1.44 - 0.05x - 0.04y$$

$$K = 1.44 - 0.05x - 0.04y$$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €, u 2. fond 2500 €,



MINIMUM

$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

$12 - x - y = 12 - 7.5 - 2.5$

MAKSIMUM

Vršna rješenja

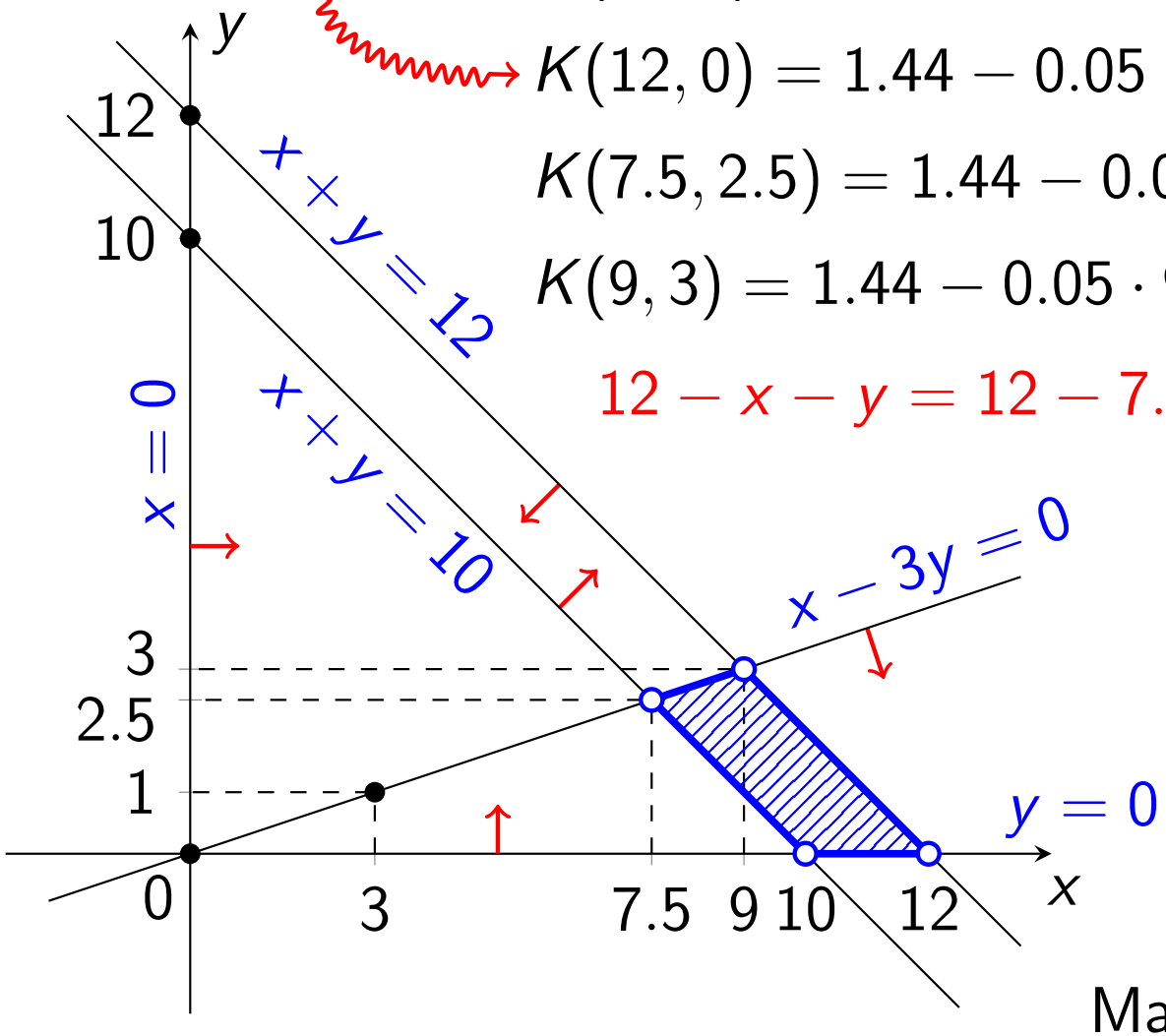
$\begin{matrix} x & y \\ (10,0), & \end{matrix} \quad \begin{matrix} x & y \\ (12,0), & \end{matrix}$

$\begin{matrix} x & y \\ (7.5,2.5), & \end{matrix} \quad \begin{matrix} x & y \\ (9,3) & \end{matrix}$

$K(x,y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €, u 2. fond 2500 €,



MINIMUM

$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

$12 - x - y = 12 - 7.5 - 2.5 = 2$

MAKSIMUM

Vršna rješenja

$x \quad y$

$(10,0), \quad (12,0),$

$x \quad y \qquad x \quad y$

$(7.5,2.5), \quad (9,3)$

$K(x,y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €, u 2. fond 2500 €,

MINIMUM

$K(10,0) = 1.44 - 0.05 \cdot 10 - 0.04 \cdot 0 = 0.94$

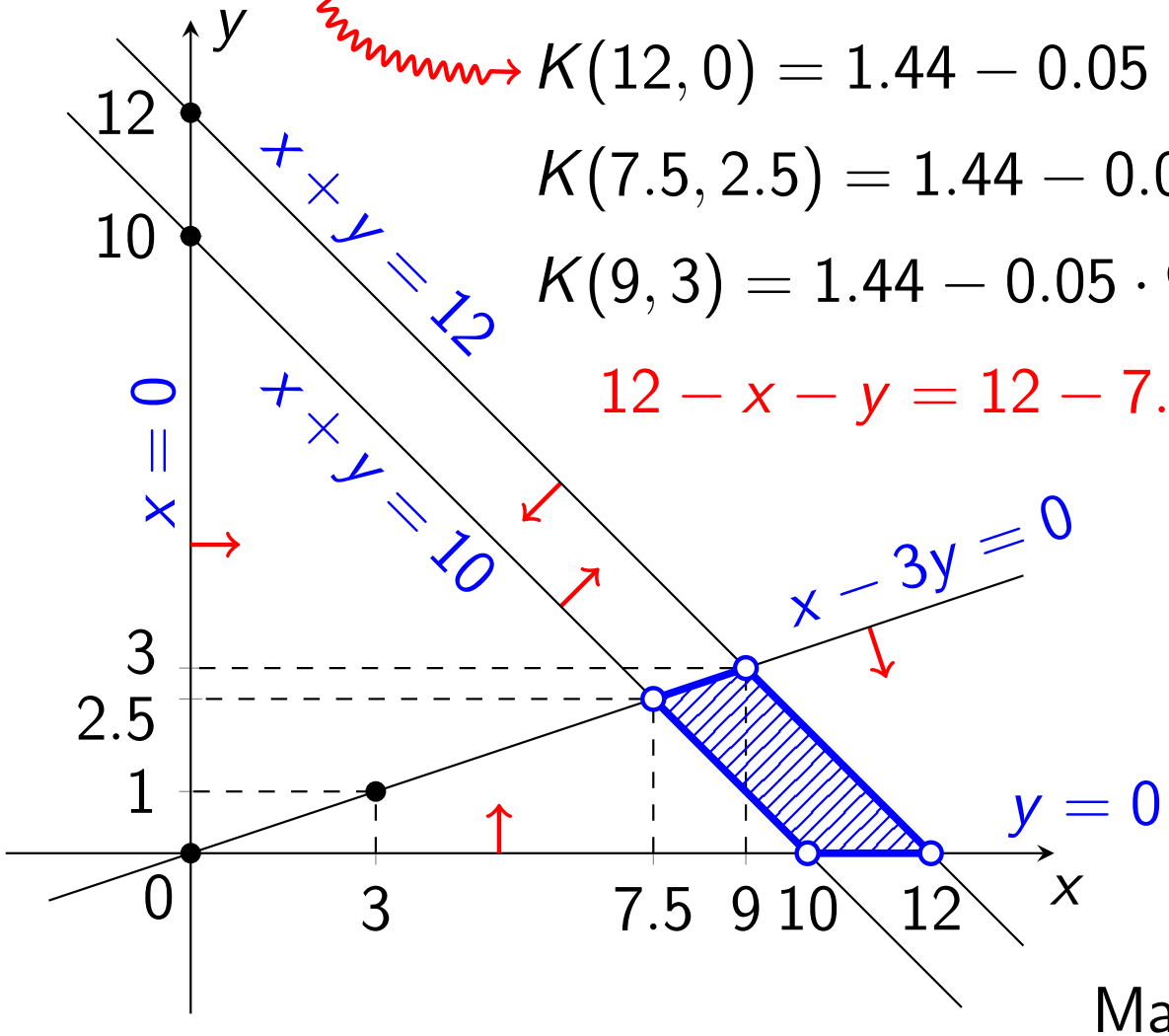
$K(12,0) = 1.44 - 0.05 \cdot 12 - 0.04 \cdot 0 = 0.84$

$K(7.5,2.5) = 1.44 - 0.05 \cdot 7.5 - 0.04 \cdot 2.5 = 0.965$

$K(9,3) = 1.44 - 0.05 \cdot 9 - 0.04 \cdot 3 = 0.87$

$12 - x - y = 12 - 7.5 - 2.5 = 2$

MAKSIMUM



Vršna rješenja

(x, y) $(10, 0)$, (x, y) $(12, 0)$,

(x, y) $(7.5, 2.5)$, (x, y) $(9, 3)$

$K(x, y) = 1.44 - 0.05x - 0.04y$

$K = 1.44 - 0.05x - 0.04y$

Maksimalna zarada iznosi 965 € ako se u 1. fond uloži 7500 €, u 2. fond 2500 €, a u 3. fond 2000 €.