Č. 2

a) $y = -3$ konstantní

b) $y = x$ R

c) $y = 2x$ R

d) $y = 4x + 2$ R

e) $y = -2x - 4$ K

f) $y = 0{,}5x$ R

g) $y = \frac{1}{4}x + 1$ R

h) $y = -x + \sqrt{5}$ K

i) $y = -\frac{3}{5}x$ K

j) $y = -x - 1$ K

k) $y = -3x + 0{,}\sqrt{5}$ K

l) $y = -\frac{1}{3}x - \frac{-2}{3}$ K

m) $y = \frac{2x}{3} - 7$ R

129/10

místo bodu čteme obj. +t

a) $y = 2x - \frac{1}{2}$ $[1;2]$ (x, y)

$2 = 2 \cdot 1 + t$ vyřeš. t

$0 = + t$

$t = 0$

$y = 2x$

bodu opíšu a přičtu t k konci, tzn. 0 a to nepíšeme

b) $y = \frac{2}{3}x + 4$ $[0; -1]$

$-1 = \frac{2}{3} \cdot 0 + t$

$-1 = t$ $y = \frac{2}{3}x - 1$

c) $y = -0{,}8x + 2$ $[10; -11]$

$-11 = -0{,}8 \cdot 10 + t$

$-11 = -8 + t$

$-3 = t$ $y = -0{,}8x - 3$

d) $y = -\frac{1}{2}x - \frac{1}{10}$ $[2; 0]$

$0 = -\frac{1}{2} \cdot 2 + t$

$t = +1$ $y = -\frac{1}{2}x + 1$

e) $y = 7x$ $[1; 10]$

$10 = 7 \cdot 1 + t$

$3 = t$ $y = 7x + 3$

129/11

a) $y = -4x + 1$

průsečík s osou x - y: $y = 0$ – dosadíme za y 0

$0 = -4x + 1$

$4x = 1$

$x = \frac{1}{4}$ → $[\frac{1}{4}; 0]$ ← 0 – dosazovali jsme ji za y

sem patří výsledek z rovnice

průsečík s osou y - y: $x = 0$

$y = -4 \cdot 0 + 1$

$y = 1$ → $[0; 1]$

b) $y = \frac{2}{5}x - 3$

osa x

$0 = \frac{2}{5}x - 3$

$\frac{2}{5}x = 3$

$x = 3 : \frac{2}{5}$

$x = \frac{15}{2}$ $\quad [\frac{15}{2}; 0]$

osa y

$y = \frac{2}{5} \cdot 0 - 3$

$y = -3$ $\quad [0; -3]$

c) $y = 0{,}4x + \frac{1}{5}$

osa x

$0 = 0{,}4x + \frac{1}{5}$

$-\frac{1}{5} = 0{,}4x \quad / \cdot 10$

$-2 = 4x$

$x = -\frac{1}{2}$ $\quad [-\frac{1}{2}; 0]$

osa y

$y = 0{,}4 \cdot 0 + \frac{1}{5}$

$y = \frac{1}{5}$ $\quad [0; \frac{1}{5}]$

d) $y = 3 - 2x$

osa x

$0 = 3 - 2x$

$2x = 3$

$x = \frac{3}{2}$ $\quad [\frac{3}{2}; 0]$

osa y

$y = 3 - 2 \cdot 0$

$y = 3$ $\quad [0; 3]$

129/12

a) $y = x + 2$
$y = -x - 2$

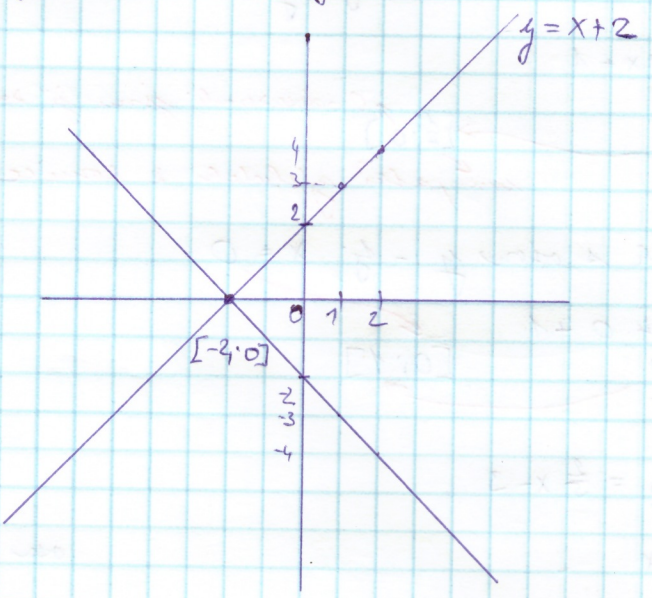
$2y = 0$
$y = 0$ $\quad 0 = x + 2$
$x = -2$ $\quad [-2; 0]$

graf.
$y = x + 2$

x	0	1	2
y	2	3	4

$y = -x - 2$

x	0	1	2
y	-2	-3	-4



Ukaška jak se to kreslí graficky

b) $y = 2x + 3$
$y = -3x - 2 \quad / \cdot (-1)$

$y = 2x + 3$
$-y = 3x + 2$

$0 = 5x + 5$
$5x = -5$
$x = -1$

$y = 2 \cdot (-1) + 3$
$y = 1$ $\quad [-1; 1]$

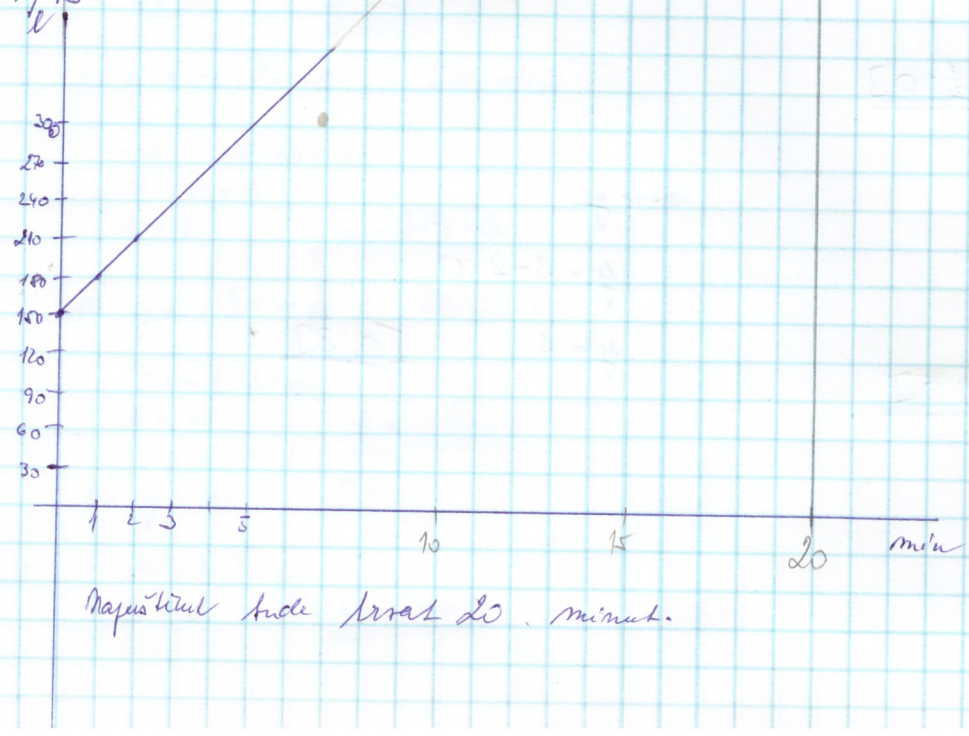
150
c) $y = -\frac{3}{2}x + 6 \quad / \cdot 2$
$y = 3x - 3$

$2y = -3x + 12$
$y = 3x - 3$

600
$3y = 9$
$y = 3$ $\quad 3 = 3x - 3$
$6 = 3x$
$x = 2$ $\quad [2; 3]$

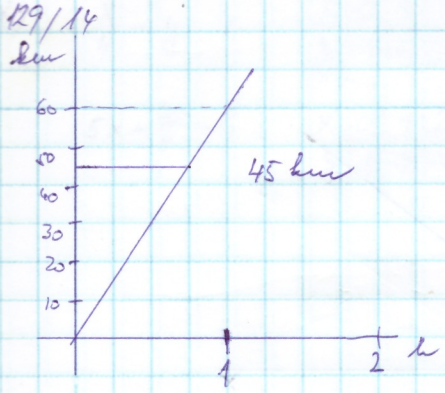
Tuhle jsem to kreslila z hod. mrizka

129/13



Napustil hrad asi 20. minut.

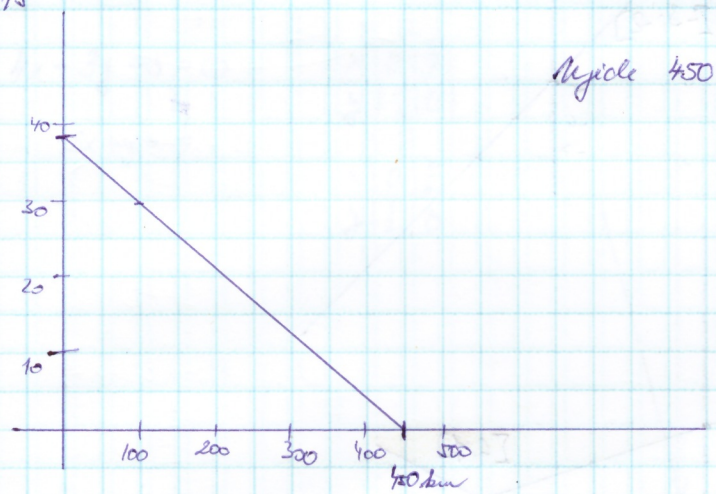
129/14



$45 + 1 + 0{,}5 = 46{,}5$ km

Mezi 46,5 km.

129/15



Nejvíce 450 km.

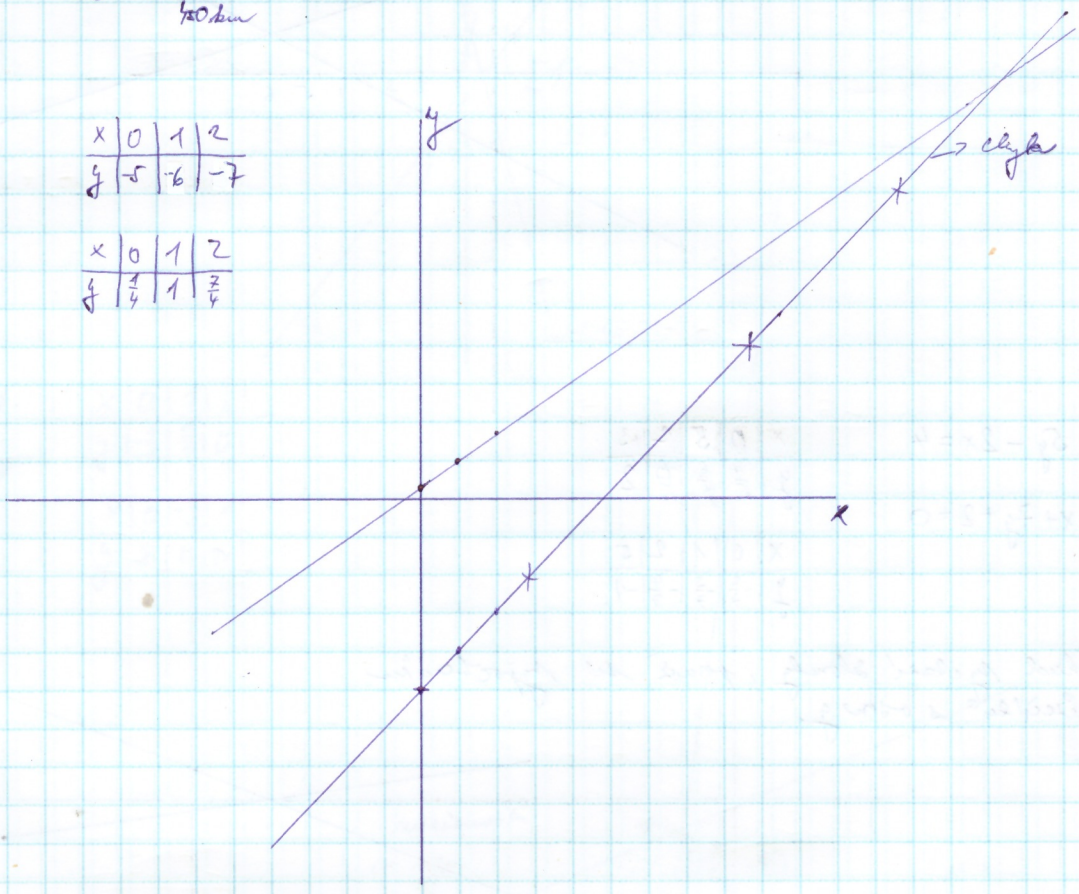
131/1

$2x + 2y = -10$

$3x - 4y = -1$

x	0	1	2
y	-5	-6	-7

x	0	1	2
y	$\frac{1}{4}$	1	$\frac{7}{4}$



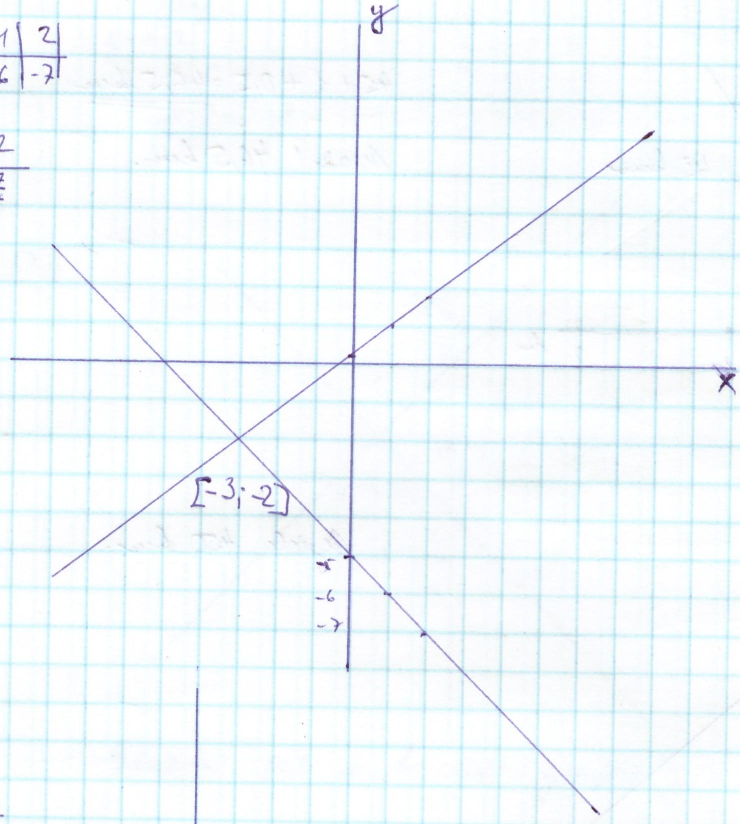
131/1

a) $2x + 2y = -10$

x	0	1	2
y	-5	-6	-7

$3x - 4y = -1$

x	0	1	2
y	$\frac{1}{4}$	1	$\frac{7}{4}$

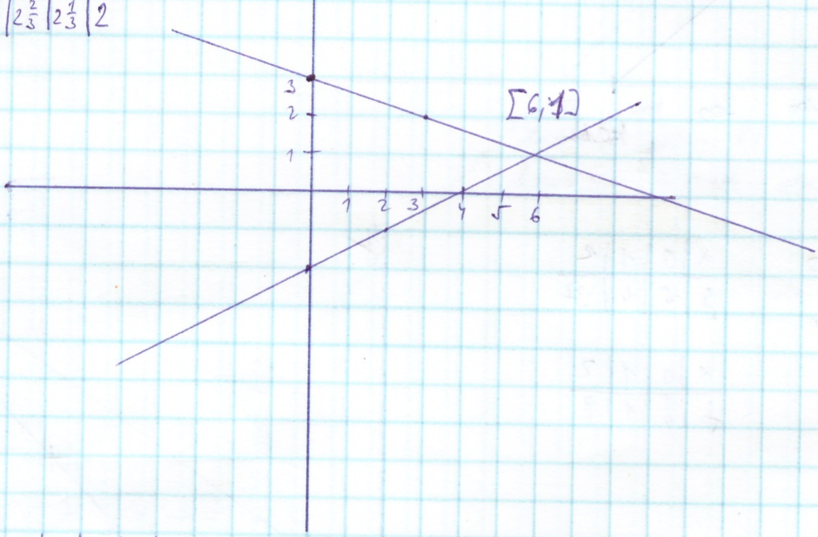


b) $\frac{x}{2} - y = 2$

x	0	1	2
y	-2	-1,5	-1

$\frac{x}{3} + y = 3$

x	0	1	2	3
y	3	$2\frac{2}{3}$	$2\frac{1}{3}$	2



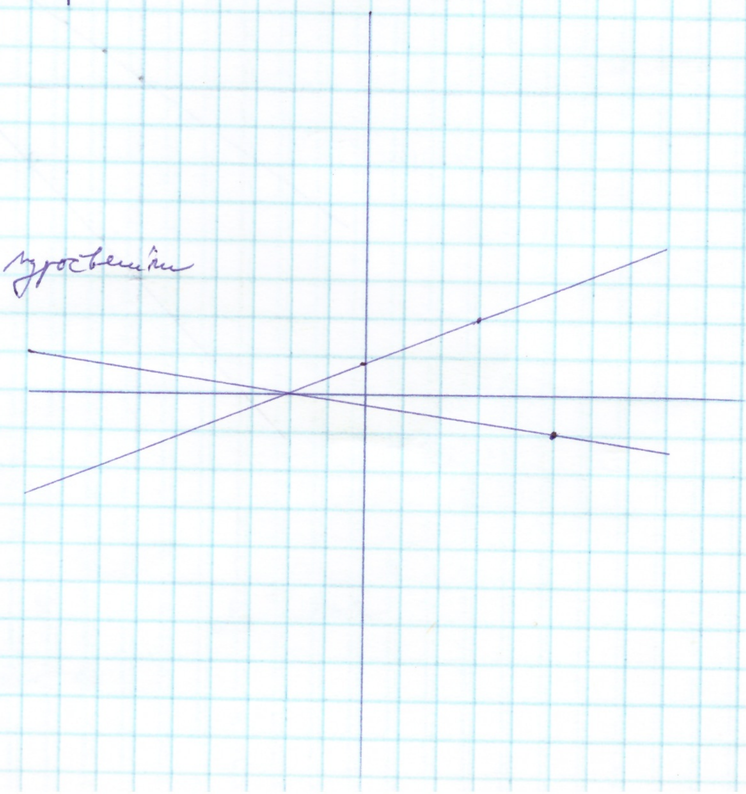
c) $5y - 2x = 4$

x	0	1	2	3
y	$\frac{4}{5}$	$\frac{6}{5}$	$\frac{8}{5}$	2

$x + 7y + 2 = 0$

x	0	1	2	5
y	$-\frac{2}{7}$	$-\frac{3}{7}$	$-\frac{4}{7}$	-1

Pokud vychází zlomky, pomož si vypočtením průsečíku s osou y.

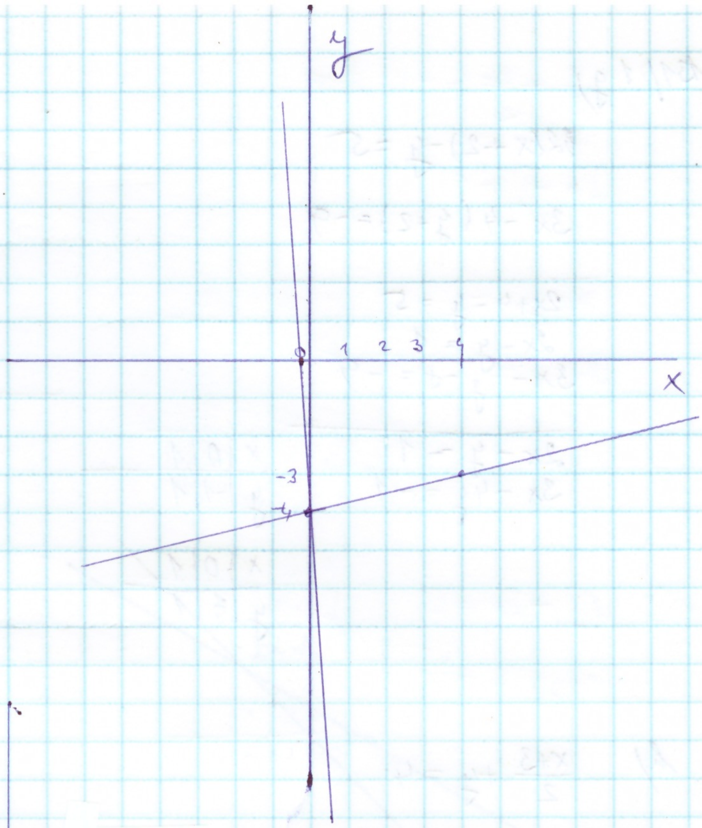


d) $\frac{x}{4} - y = 4$

x	0	1	2	4
y	-4	$-3\frac{3}{4}$	-3,5	-3

$5x + \frac{y}{4} = -1$

x	0	1	2
y	-4	-24	-44

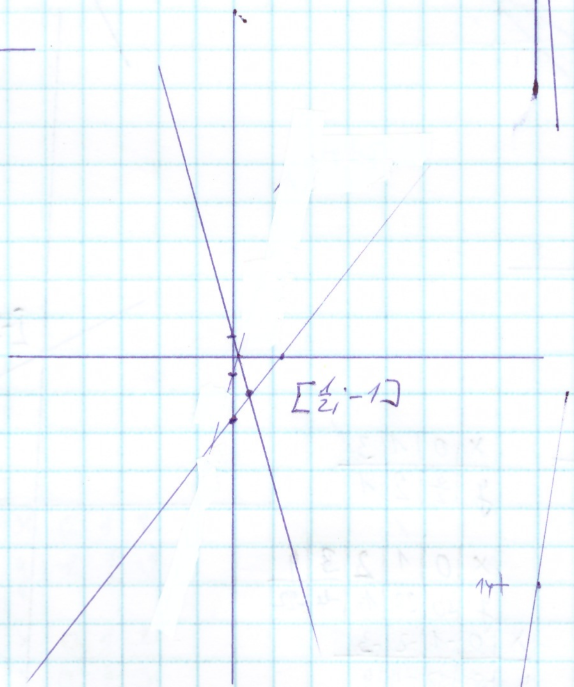


e) $4x - 3y - 5 = 0$

x	0	$\frac{5}{4}$
y	$-\frac{5}{3}$	0

$3x + y = \frac{1}{2}$

x	0	$\frac{1}{6}$
y	$\frac{1}{2}$	0

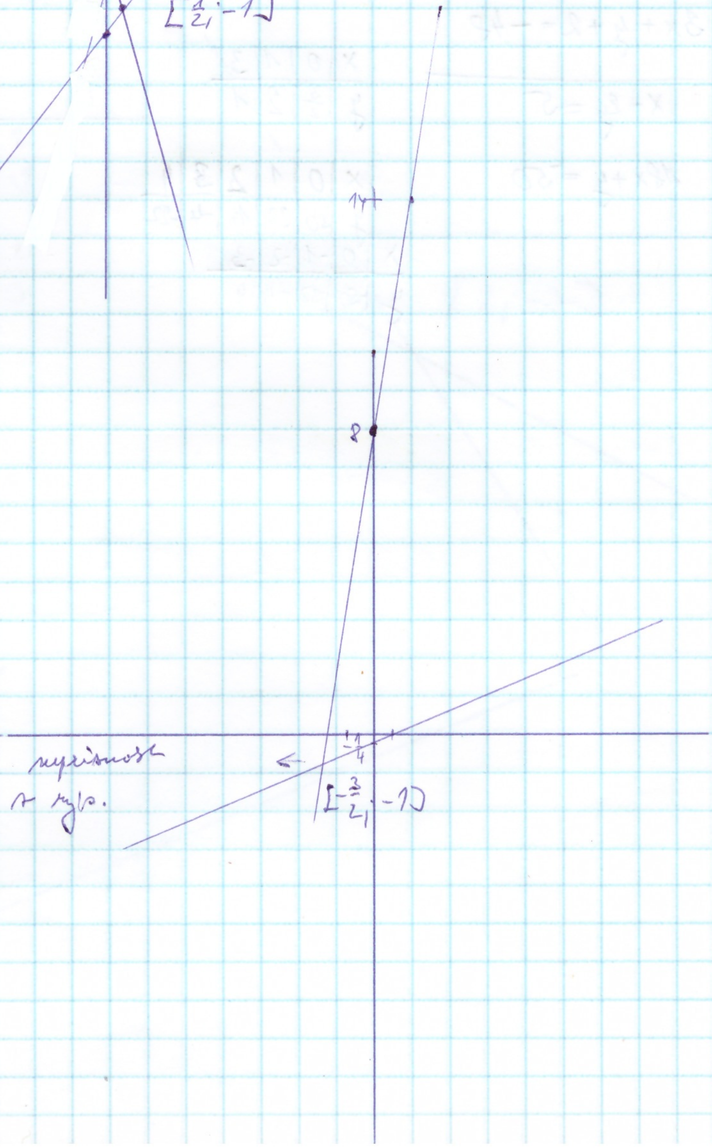


f) $2x - 4y = 1$

x	0	1	$\frac{1}{2}$
y	$-\frac{1}{4}$	$\frac{1}{4}$	0

$3x - \frac{y}{2} = -4$

x	0	$-\frac{4}{3}$	1
y	8	0	14



131/1 g)

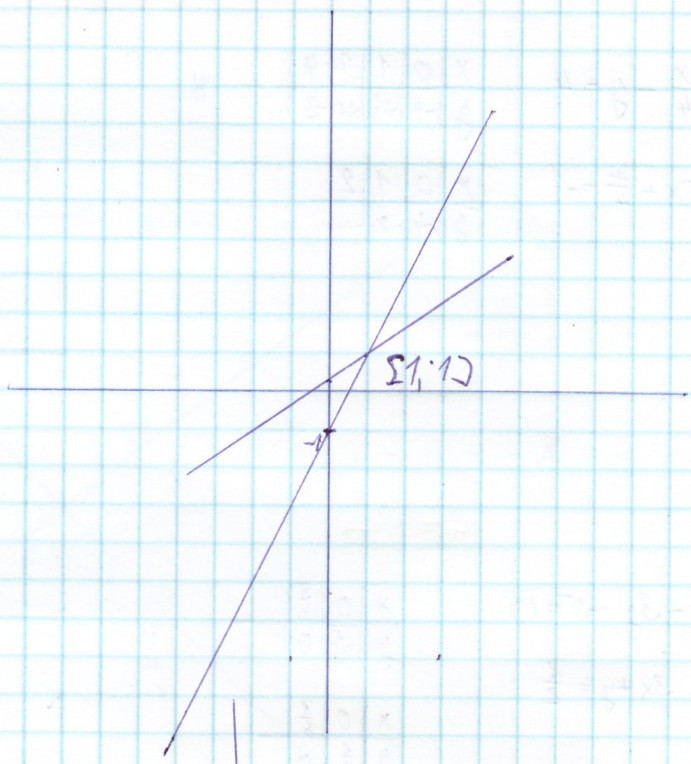
$$\begin{cases} 2(x+2)-y=5 \\ 3x-4(y+2)=-9 \end{cases}$$

$$\begin{cases} 2x+4-y=5 \\ 3x-4y-8=-9 \end{cases}$$

$$\begin{cases} 2x-y=1 \\ 3x-4y=-1 \end{cases}$$

x	0	1
y	-1	1

x	0	1
y	$\frac{1}{4}$	1



h) $\frac{x+3}{2}+y=4$

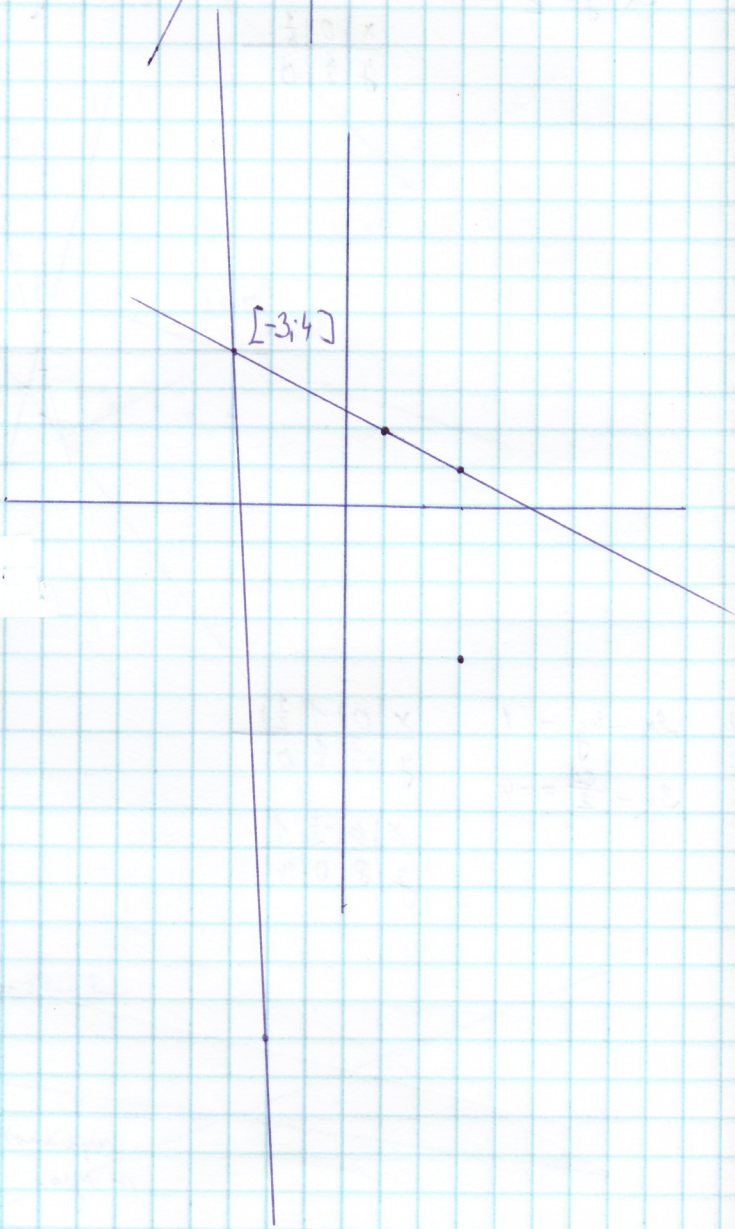
$$3x+\frac{y+2}{6}=-8$$

$$\begin{cases} x+3+2y=8 \\ 18x+y+2=-48 \end{cases}$$

$$\begin{cases} x+2y=5 \\ 18x+y=-50 \end{cases}$$

x	0	1	3
y	$\frac{5}{2}$	2	1

x	0	-1	-2	-3
y	-50	-32	-14	4



i) $\frac{x-1}{3} + \frac{y+1}{2} = -1 \quad / \cdot 6$

$x + y = -3$

$2x - 2 + 3y + 3 = -6$

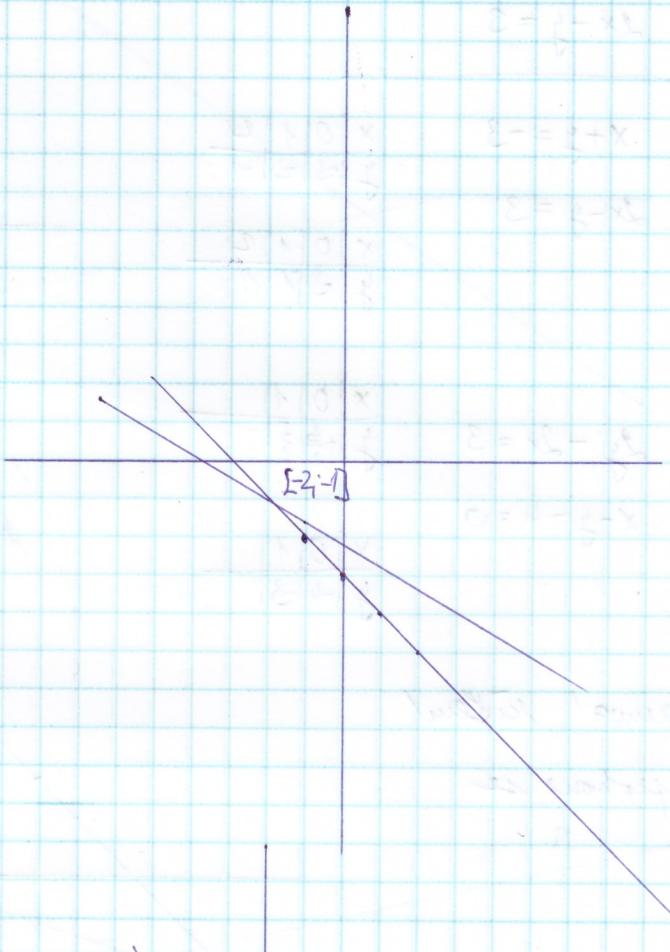
$x + y = -3$

$2x + 3y = -7$

$x + y = -3$

x	0	$-\frac{7}{2}$	-1	-2
y	$-\frac{7}{3}$	0	$-\frac{5}{3}$	-1

x	0	1	2
y	-3	-4	-5



133/2 a) $x + 2(y+1) = -2$

$3x + 2y = 0$

$x + 2y + 2 = -2$

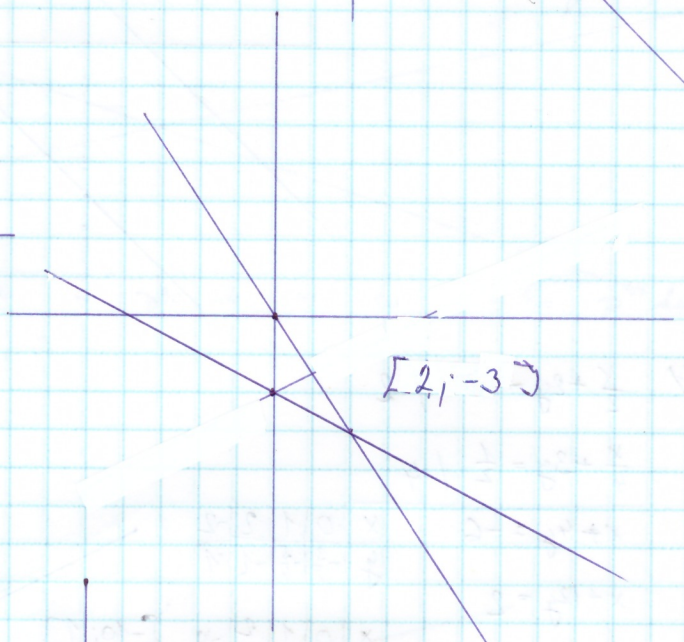
$3x + 2y = 0$

$x + 2y = -4$

$3x + 2y = 0$

x	0	1	2
y	-2	$-\frac{5}{2}$	-3

x	0	1	2
y	0	$-\frac{3}{2}$	-3



1) $2x + 5y = 10$

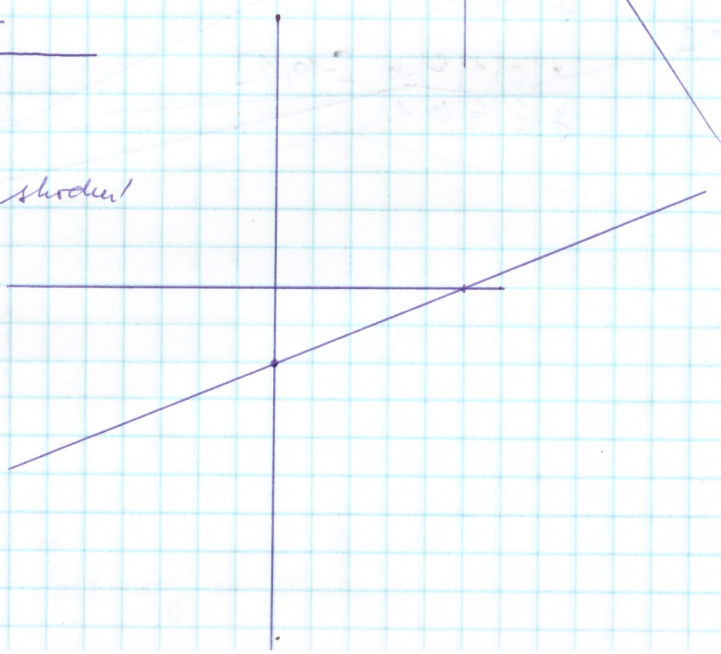
$-x - \frac{5}{2}y = -5 \quad / \cdot 2$

$2x + 5y = 10$

$-2x - 5y = -10$

x	0	5
y	2	0

∞ řešení - rovnice jsou shodné



c) $\frac{x}{3} + \frac{y}{3} = -1 \quad / \cdot 3$

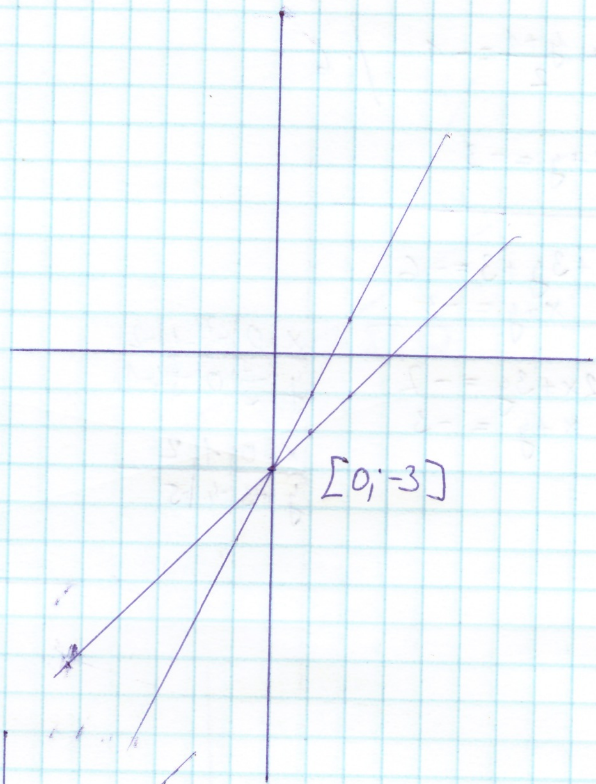
$2x - y = 3$

$x + y = -3$

x	0	1	2
y	-3	-2	-1

$2x - y = 3$

x	0	1	2
y	-3	-1	1



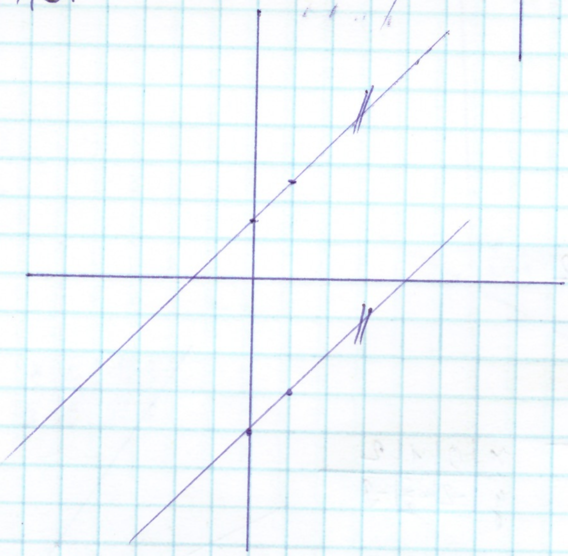
d) $2y - 2x = 3$

x	0	1
y	$+\frac{3}{2}$	$\frac{5}{2}$

$x - y - 4 = 0$

x	0	1
y	-4	-3

nemá řešení
neprotnou se



e) $\frac{x}{2} + 2y = -3 \quad / \cdot 2$

$\frac{x}{4} + 3y = \frac{1}{2} \quad / \cdot 4$

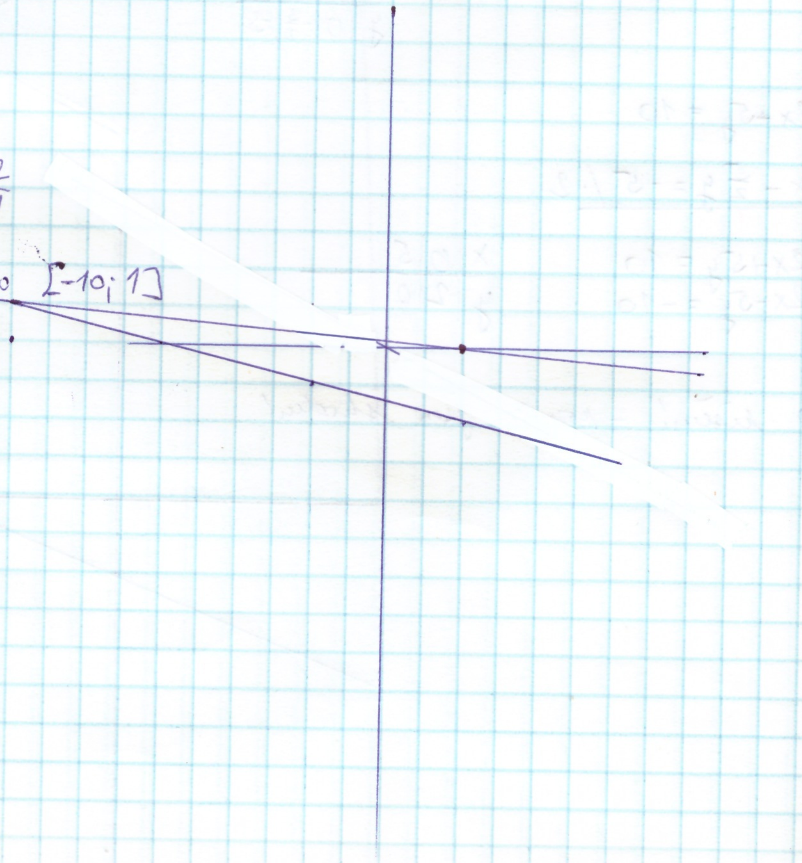
$x + 4y = -6$

x	0	1	2	-2
y	$-\frac{3}{2}$	$-\frac{5}{4}$	-1	-1

$x + 12y = 2$

x	0	1	2	-10
y	$\frac{1}{6}$	$\frac{1}{12}$	0	1.

[-10; 1]



X

1) $2x+3y=6$

$x-3=-\frac{3}{2}y \mid \cdot 2$

$2x+3y=6$

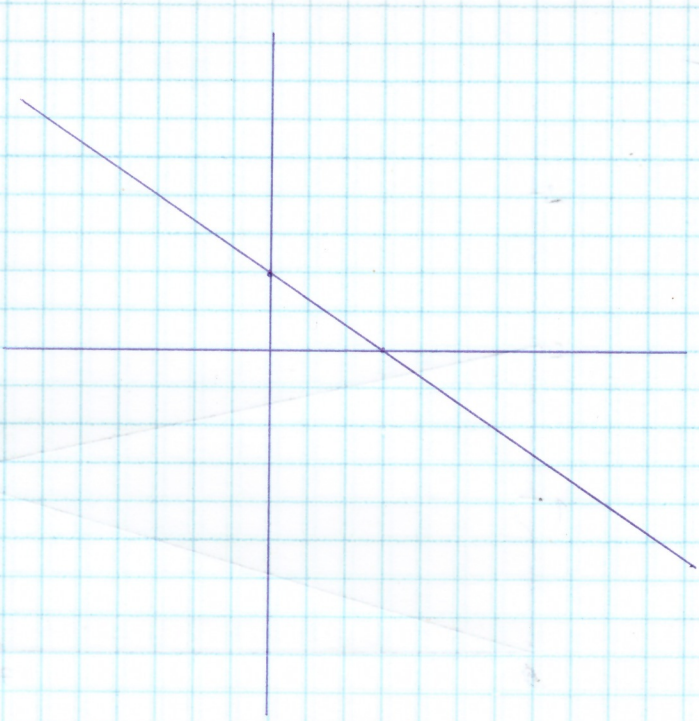
$2x-6=-3y$

$2x+3y=6$

$2x+3y=6$

x	0	1	2	3
y	2	$\frac{4}{3}$	$\frac{2}{3}$	0

∞ řešení



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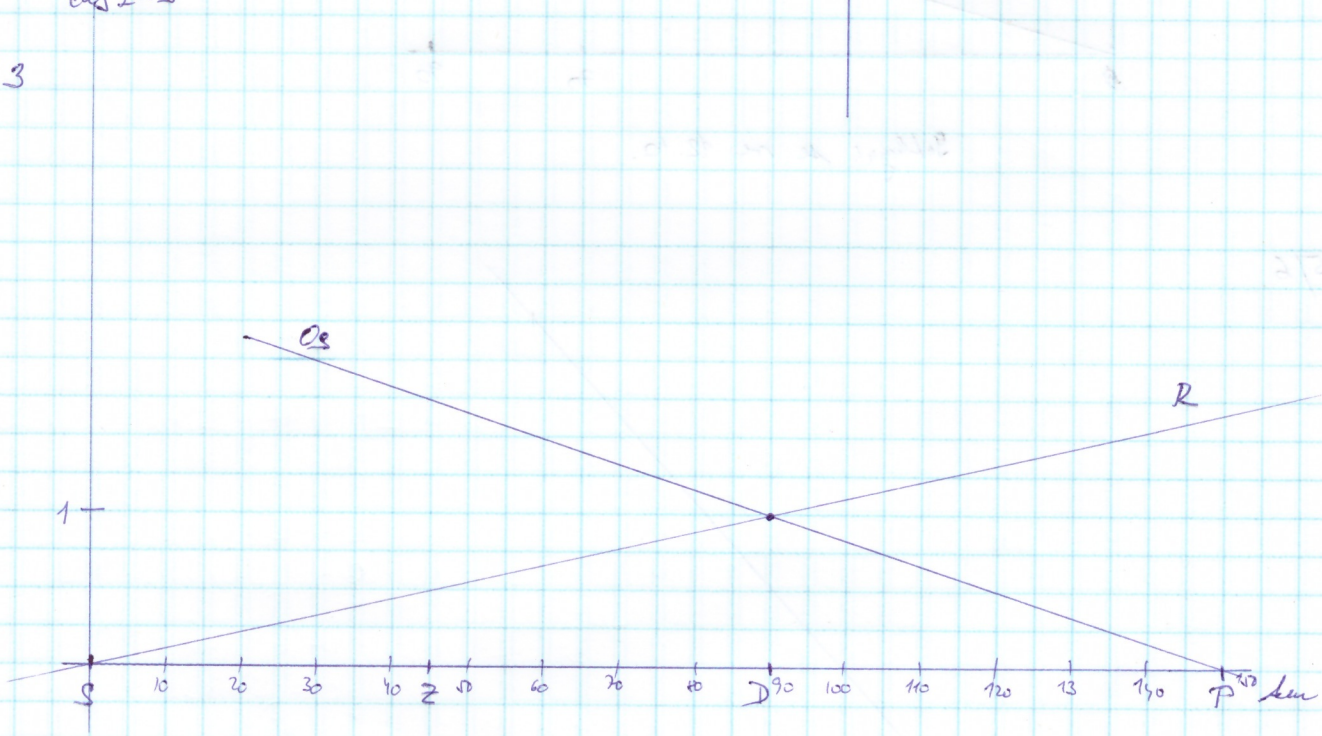

Jedeme se v Dolině.

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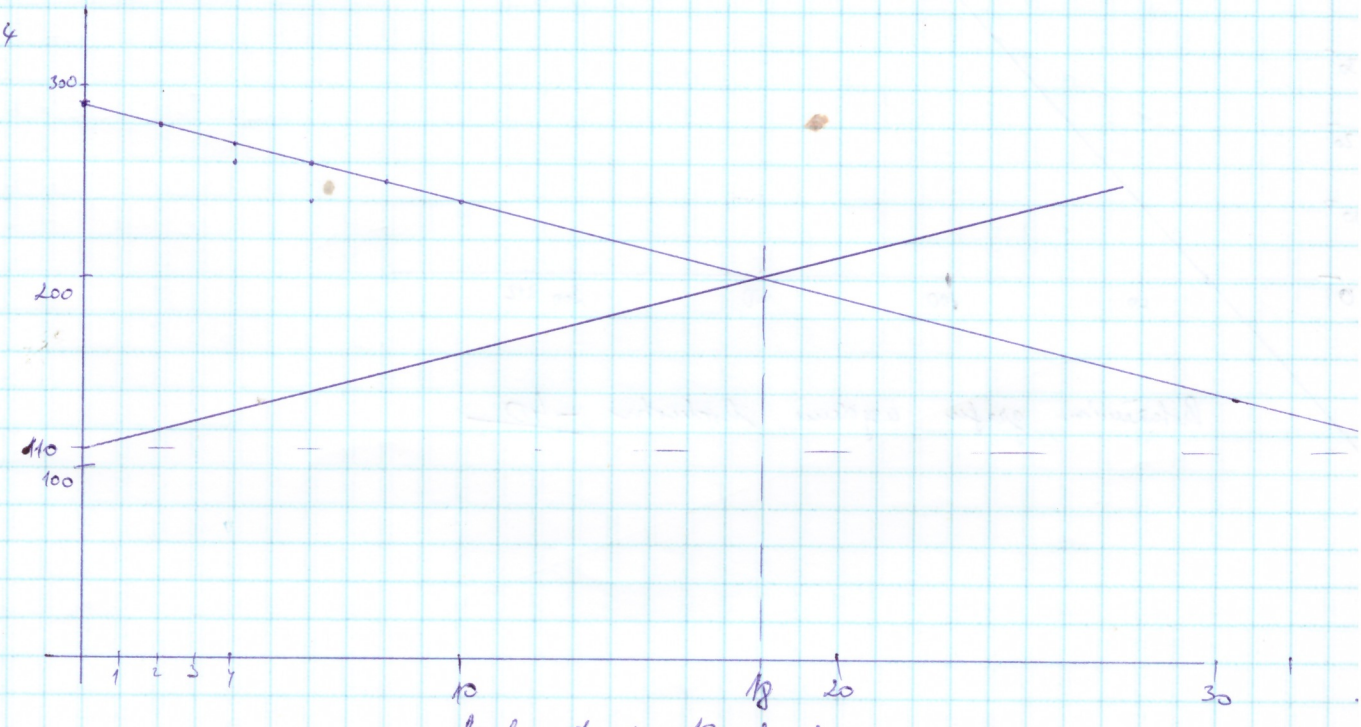

Dool vody za 15 sekund

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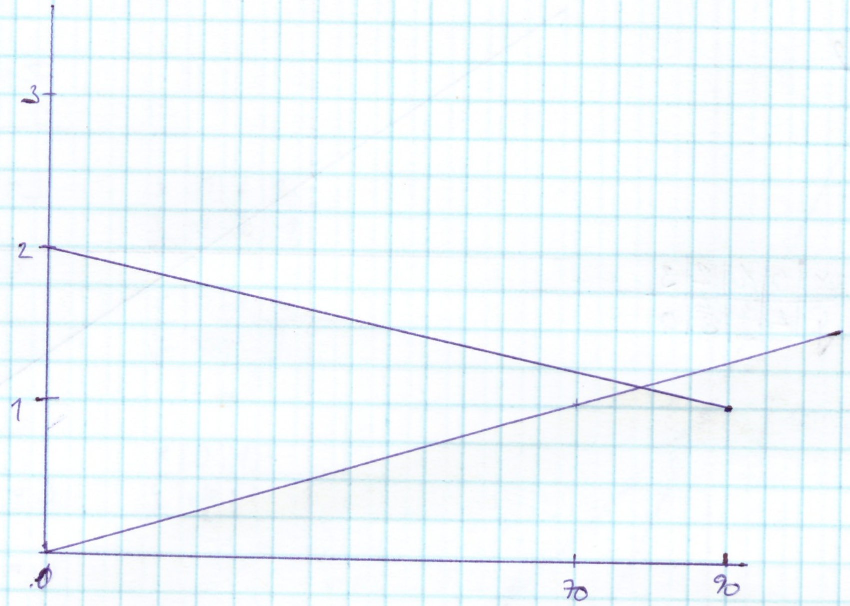

Potkají se ve 12.10.

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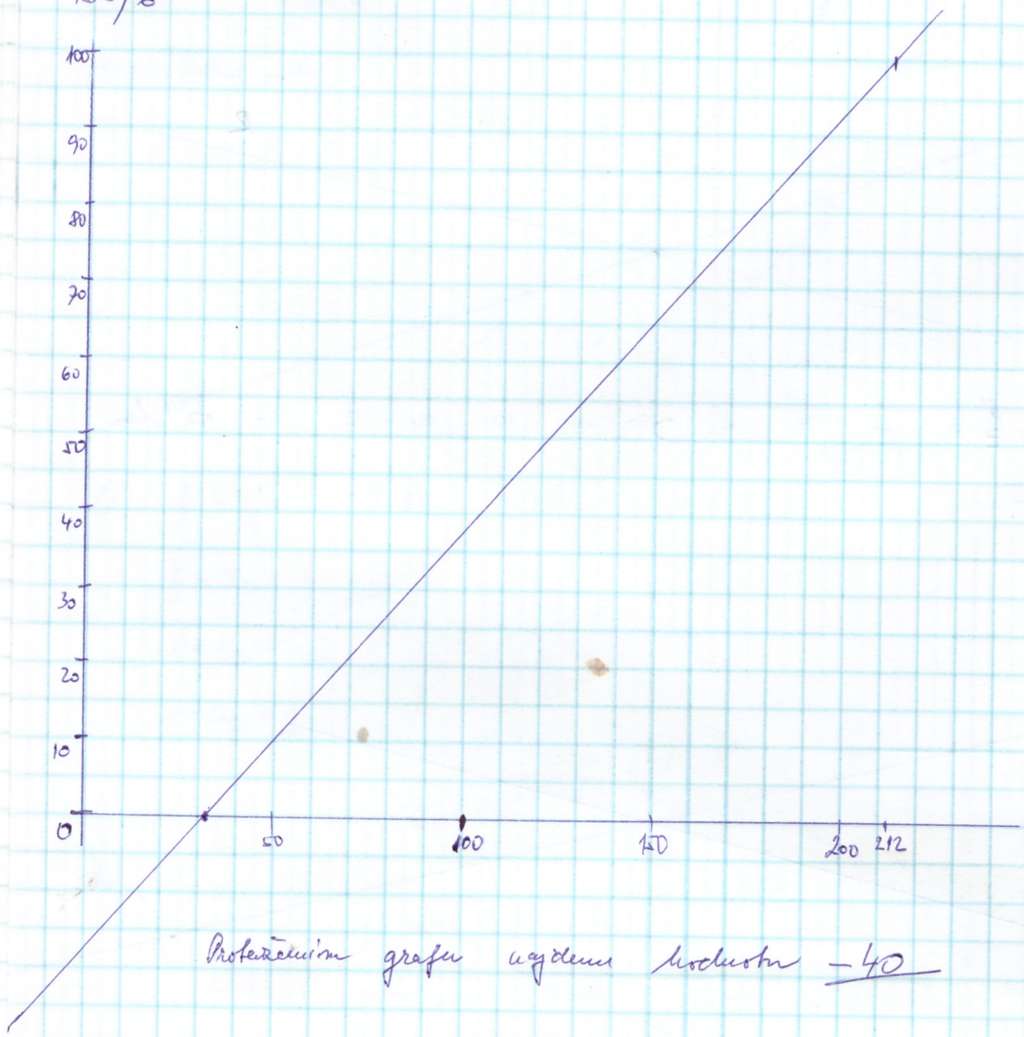

Prodloužením grafu najdeme hodnotu -40