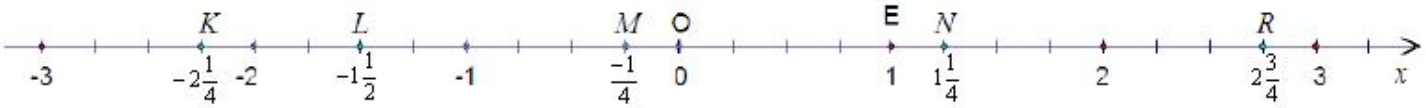
Koordinatni sustav na pravcu, uređeni par
- rješenja -

1) $K(-13.07),\ L\left(\frac{1}{527}\right),\ M(7),\ N(8.9),\ R\left(-2\frac{4}{9}\right).$

2)

a) $A(-3),\ B(-2),\ C(4),\ D(5)$

b)

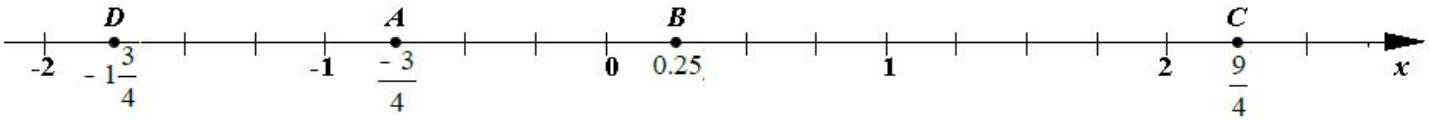


$K\left(-2\frac{1}{4}\right)$ ili $K\left(\frac{-9}{4}\right)$, $L\left(-1\frac{1}{2}\right)$ ili $L\left(\frac{-3}{2}\right)$ ovdje smo kratili $\frac{-6}{4}$

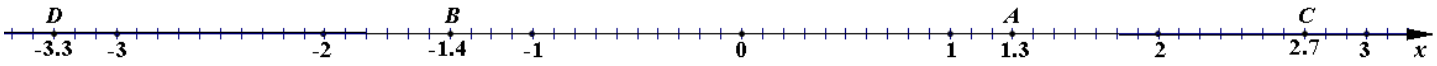
$M\left(\frac{-1}{4}\right)$, $N\left(1\frac{1}{4}\right)$ ili $N\left(\frac{5}{4}\right)$, $R\left(2\frac{3}{4}\right)$ ili $R\left(\frac{11}{4}\right)$

3)

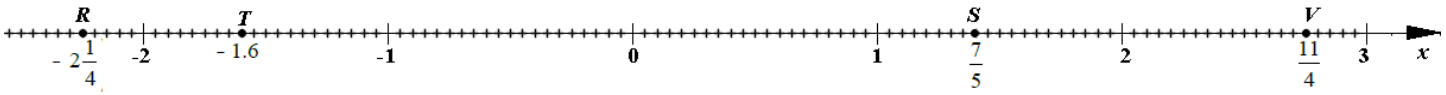
a)



b)



c)

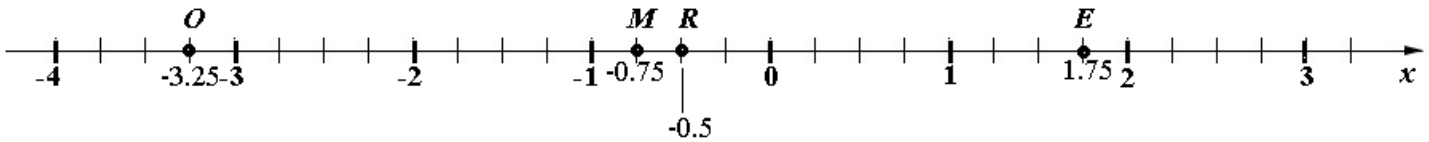


Zajednički nazivnik je 20 pa svodimo brojeve na razlomak s nazivnikom 20. Također, jediničnu dužinu dijelimo na 20 jednakih dijelova.

$R\ldots\ -2\frac{1}{4}=-2\frac{-5}{20}$ $\qquad T\ldots\ -1.6=\frac{-16}{10}=\frac{-32}{20}=-1\frac{12}{20}$

$S\ldots\ \frac{7}{5}=\frac{28}{20}=1\frac{8}{20}$ $\qquad V\ldots\ \frac{11}{4}=\frac{55}{20}=2\frac{15}{20}$

d)



4) *Jednakost uređenih parova:*

Dva su uređena para jednaka ako je **prvi član** prvog para, jednak **prvom članu** drugog para te **drugi član** prvog para jednak **drugom članu** drugog para.

a) $(4k, 8) = (12, 8)$

$4k = 12 \ /:4$

$\boldsymbol{k = 3}$

b) $(2k + 6, 3l - 4) = (8k - 3, 4l + 4)$

$2k + 6 = 8k - 3$

$2k - 8k = -3 - 6$

$-2k = -9 \ /: (-9)$

$k = \frac{9}{2}$

$3l - 4 = 4l + 4$

$3l - 4l = 4 + 4$

$-l = 8 \ /\cdot (-1)$

$\boldsymbol{l = -8}$

5) a) $\left(\frac{2}{3}a - 0.8, 2.5 + \frac{1}{4}\right) = \left(0.4a + 2, \frac{3}{8}b - 0.6\right)$

$\frac{2}{3}a - 0.8 = 0.4a + 2$

$\frac{2}{3}a - \frac{4}{5} = \frac{2}{5}a + 2 \ /\cdot 15$

$10a - 12 = 6a + 30$

$4a = 42 \ /:4$

$a = \frac{21}{2}$

$2.5 + \frac{1}{4} = \frac{3}{8}b - 0.6$

$\frac{5}{2} + \frac{1}{4} = \frac{3}{8}b - \frac{3}{5} \ /\cdot 40$

$100 + 10 = 15b - 24$

$-15b = -134 \ / : (-15)$

$b = \frac{134}{15}$

b) $\left(\frac{2a-1}{3}, b + \frac{1}{2}\right) = \left(a - 2, \frac{3b+1}{2}\right)$

$\frac{2a-1}{3} = a - 2 \ /\cdot 3$

$2a - 1 = 3a - 6$

$-a = -5 \ /\cdot (1)$

$\boldsymbol{a = 5}$

$b + \frac{1}{2} = \frac{3b+1}{2} \ /\cdot 2$

$2b + 1 = 3b + 1$

$-b = 0$

$\boldsymbol{b = 0}$

6)

a) $x + y = 6$ (Koja dva prirodna broja zbrojena daju 6?) *Rj:* (1, 5), (2,4), (3, 3), (4, 2), (5, 1)

b) $x \cdot y = 15$ (Koja dva prirodna broja pomnožena daju 15?) *Rj:* (1, 15), (3, 5), (5, 3), (15, 1)

c) $2x + y = 12$ (Biramo x, a za odabrani x računamo y.)

$x = 1 \rightarrow 2 \cdot 1 + y = 12$

$2 + y = 12$

$y = 10$

(1, 10)

$x = 2 \rightarrow 2 \cdot 2 + y = 12$

$4 + y = 12$

$y = 8$

(2, 8)

$x = 3 \rightarrow 2 \cdot 3 + y = 12$

$6 + y = 12$

$y = 6$

(3, 6)

$x = 4 \rightarrow 2 \cdot 4 + y = 12$

$8 + y = 12$

$y = 4$

(4, 4)

$x = 5 \rightarrow 2 \cdot 5 + y = 12$

$10 + y = 12$

$y = 2$

(5, 2)

$x = 6 \rightarrow 2 \cdot 6 + y = 12$

$12 + y = 12$

$y = 0$ **NE!**

(6, 0)

7) $x \cdot y = 9$ Umnožak dva cijela broja je **pozitivan** kada su faktor istog predznaka → $+ \cdot +$ ili $- \cdot -$

Rj: $(1, 9), (3, 3), (9, 1), (-1, -9), (-3, -3), (-9, -1)$

8) $(2, -1) \rightarrow \boldsymbol{x = 2}, \boldsymbol{y = -1}$ uvrštavamo u jednadžbu $x - 3y = -5$

$$\begin{aligned} \mathbf{2} - 3 \cdot \mathbf{(-1)} &= -5 \\ 2 + 3 &= -5 \\ 5 &\neq -5 \end{aligned}$$

Uređeni par $(2, -1)$ **nije** rješenje jednadžbe $x - 3y = 5$.