

1.

Skup realnih brojeva

1.1. Skup racionalnih brojeva

1.1. Izračunaj:

- a)** $23 \cdot (-1) + 4 \cdot 19$; **b)** $32 \cdot 3 - (-4) \cdot 104$; **c)** $(-1) \cdot 35 - (-1) \cdot 40$;
d) $4 \cdot 18 + 2 \cdot (-1)$; **e)** $(-7) \cdot 5 + 5 \cdot 7$; **f)** $0 \cdot 10 - 10 \cdot 2$;
g) $(-4) \cdot 4 + 6 \cdot (-2)$; **h)** $(-2) \cdot 6 - 6 \cdot (-3)$; **i)** $3 \cdot (-5) + 5 \cdot (-3)$.

1.2. Izračunaj:

- a)** $12 : 6 + 4 : (-2)$; **b)** $24 : (-8) - 2 : 1$; **c)** $0 : 17 - 7 : (-7)$;
d) $(-40) : (-10) + 10 : (-10)$; **e)** $90 : (-30) - 60 : (-20)$;
f) $(-100) : (-100) + 100 : (-10)$.

1.3. Izračunaj:

- a)** $(-50) : (-25) + (-25) \cdot (-2)$; **b)** $(-45) : 5 + (-5) \cdot 0$;
c) $(-8) \cdot (-7) - (-33) : (-11)$.

1.4. Izračunaj:

- a)** $7 \cdot [12 + 33 \cdot (-4 + 9) - 7 \cdot 24]$;
b) $2 \cdot \{-2 \cdot [4 - 2 \cdot (4 - 2)] - 2\} + 1$;
c) $2 \cdot \{[214 - 3 \cdot (61 - 5)] \cdot [23 \cdot 9 - (38 - 22) \cdot 12] + 3\} - 3918 : 3$;
d) $7 \cdot \{7 + 7 \cdot [7 + 7 \cdot (7 + 7) - 70] - 70\} - 70$;
e) $17 \cdot (3 \cdot 12 - 9 \cdot 4)[17 + 24 \cdot (32 \cdot 18 - 23 \cdot 48) - 12 \cdot 45]$;
f) $279 \cdot \{8 + 27 : [49 + (-3 \cdot 15) - 1] + 4\} - 3 \cdot (35 + 2 \cdot 29) \cdot [3 \cdot (-7 + 18) - 12]$;
g) $123 : [25 - 2 \cdot (18 - 7)] + (256 - 64 \cdot 4)\{1 + 12 \cdot [123 - 1234 \cdot (12345 - 123456)]\}$.

1.5. Izračunaj:

$$\begin{array}{lll} \text{a)} \frac{1}{2} + \frac{1}{3}; & \text{b)} \frac{1}{4} + \frac{1}{2} - \frac{3}{5}; & \text{c)} \frac{5}{6} - \frac{3}{4} + \frac{1}{3}; \\ \text{d)} \frac{1}{2} + \frac{1}{3} - \frac{1}{6}; & \text{e)} \frac{1}{7} - \frac{3}{14} + \frac{1}{2}; & \text{f)} \frac{1}{5} - \frac{1}{10} - \frac{1}{2}; \\ \text{g)} \frac{1}{2} - \frac{1}{3} - \frac{1}{5}; & \text{h)} \frac{3}{4} - \frac{2}{3} + \frac{1}{5}; & \text{i)} \frac{1}{7} + \frac{1}{3} - \frac{1}{2}. \end{array}$$

1.6. Izračunaj:

$$\begin{array}{lll} \text{a)} \frac{1}{2} + \left(-\frac{1}{3}\right) - \frac{2}{4}; & \text{b)} \frac{3}{4} - \left(-\frac{5}{12}\right) - \frac{4}{3}; & \text{c)} \frac{5}{8} - \frac{2}{3} + \left(-\frac{1}{12}\right); \\ \text{d)} \frac{8}{9} - \left(-\frac{2}{6}\right) - \frac{2}{3}; & \text{e)} \frac{7}{8} - \frac{7}{9} + \left(-\frac{1}{3}\right); & \text{f)} \frac{2}{3} - \left(-\frac{5}{6}\right) - \frac{1}{4}. \end{array}$$

1.7. Izračunaj:

$$\begin{array}{lll} \text{a)} 2\frac{2}{5} - \frac{3}{7}; & \text{b)} 4\frac{1}{7} - \frac{2}{3}; & \text{c)} 3\frac{7}{8} - \frac{3}{5}; \\ \text{d)} \frac{1}{5} + \left(-3\frac{1}{6}\right); & \text{e)} \frac{7}{9} + \left(-2\frac{3}{8}\right); & \text{f)} \frac{5}{8} + \left(-2\frac{3}{7}\right). \end{array}$$

1.8. Izračunaj:

$$\begin{array}{lll} \text{a)} 2 + 3\frac{1}{2}; & \text{b)} 4\frac{2}{3} - 2; & \text{c)} 2\frac{4}{5} - 1; \\ \text{d)} -6 + 2\frac{2}{5}; & \text{e)} 1 - 1\frac{3}{4}; & \text{f)} 7 - 2\frac{2}{3}. \end{array}$$

1.9. Izračunaj:

$$\begin{array}{lll} \text{a)} 1\frac{1}{3} - 2 - \left(-1\frac{1}{2}\right); & \text{b)} 3\frac{2}{3} - 2\frac{3}{4} + (-1); & \text{c)} 5 + \left(-2\frac{1}{5}\right) - 3\frac{1}{2}; \\ \text{d)} 7\frac{1}{7} + \left(-\frac{1}{6}\right) - 5; & \text{e)} 5 - 5\frac{1}{3} - \left(-\frac{1}{3}\right); & \text{f)} 3\frac{1}{4} + \left(-\frac{1}{4}\right) - 3; \\ \text{g)} 8\frac{3}{4} - 6\frac{2}{3} - \left(-\frac{11}{12}\right); & \text{h)} 4\frac{1}{3} - 3\frac{1}{2} - \left(-9\frac{1}{6}\right); & \text{i)} 5\frac{2}{3} - \left(-3\frac{4}{5}\right) - 3\frac{7}{15}. \end{array}$$

1.10. Izračunaj:

$$\begin{array}{lll} \text{a)} \frac{2}{7} \cdot \frac{3}{4}; & \text{b)} \frac{10}{9} \cdot \frac{3}{20}; & \text{c)} \frac{42}{85} \cdot \frac{102}{147}; \\ \text{d)} \frac{117}{124} \cdot \frac{155}{156}; & \text{e)} \frac{96}{280} \cdot \frac{455}{312}; & \text{f)} \frac{112}{28} \cdot \left(-\frac{30}{440}\right); \\ \text{g)} \left(-\frac{125}{144}\right) \cdot \frac{216}{225}; & \text{h)} \left(-\frac{252}{136}\right) \cdot \left(-\frac{420}{882}\right); \\ \text{i)} \left(-\frac{648}{405}\right) \cdot \frac{630}{144}; & \text{j)} \frac{315}{252} \cdot \left(-\frac{420}{105}\right); \\ \text{k)} \left(-\frac{128}{720}\right) \cdot \left(-\frac{315}{448}\right); & \text{l)} \left(-\frac{135}{648}\right) \cdot \left(-\frac{432}{360}\right). \end{array}$$

1.11. Izračunaj:

a) $\frac{40}{11200} \cdot 120;$

c) $\left(-\frac{672}{18144}\right) \cdot (-216);$

e) $96 \cdot \frac{336}{3584};$

g) $630 \cdot \left(-\frac{40}{4200}\right);$

b) $\left(-\frac{56}{11760}\right) \cdot 315;$

d) $\frac{30}{1260} \cdot (-2520);$

f) $(-168) \cdot \left(-\frac{56}{1960}\right);$

h) $(-60) \cdot \frac{144}{11520}.$

1.12. Izračunaj:

a) $\frac{55}{105} \cdot \left(-\frac{45}{110}\right) \cdot \frac{84}{9};$

c) $\left(-\frac{80}{225}\right) \cdot \frac{135}{162} \cdot \left(-\frac{243}{72}\right);$

e) $\frac{315}{144} \cdot \left(-\frac{448}{168}\right) \cdot \left(-\frac{432}{630}\right);$

b) $\frac{224}{126} \cdot \frac{36}{40} \cdot \left(-\frac{250}{56}\right);$

d) $\left(-\frac{90}{168}\right) \cdot \frac{192}{72} \cdot \frac{54}{200};$

f) $\left(-\frac{567}{243}\right) \cdot \left(-\frac{280}{336}\right) \cdot \left(-\frac{315}{175}\right).$

1.13. Izračunaj:

a) $3\frac{1}{3} \cdot 3\frac{3}{5};$

c) $\left(-7\frac{1}{7}\right) \cdot 9\frac{1}{3};$

b) $\left(-4\frac{2}{3}\right) \cdot \left(-5\frac{1}{4}\right);$

d) $6\frac{2}{5} \cdot \left(-7\frac{1}{2}\right).$

1.14. Izračunaj:

a) $\left(-2\frac{3}{8}\right) \cdot 12;$

c) $(-6) \cdot \left(-2\frac{5}{9}\right);$

e) $3\frac{1}{4} \cdot (-14);$

g) $24 \cdot \left(-1\frac{5}{12}\right);$

b) $3\frac{2}{5} \cdot (-5);$

d) $10 \cdot 2\frac{3}{10};$

f) $\left(-4\frac{7}{15}\right) \cdot 15;$

h) $(-35) \cdot \left(-2\frac{1}{45}\right).$

1.15. Izračunaj:

a) $2\frac{1}{2} \cdot \left(-5\frac{1}{3}\right) \cdot 6;$

c) $(-9) \cdot 2\frac{5}{18} \cdot \left(-1\frac{1}{9}\right);$

b) $3\frac{1}{4} \cdot 8 \cdot \left(-2\frac{1}{6}\right);$

d) $\left(-3\frac{3}{8}\right) \cdot (-2) \cdot \left(-4\frac{2}{3}\right).$

1.16. Izračunaj:

a) $\frac{8}{27} : \frac{4}{9};$

b) $\frac{36}{63} : \frac{6}{7};$

c) $\frac{24}{35} : \left(-\frac{4}{5}\right);$

d) $\left(-\frac{81}{100}\right) : \frac{3}{25};$

e) $\frac{3}{7} : \frac{4}{7};$

f) $\frac{1}{2} : \frac{3}{2};$

g) $\frac{13}{42} : \frac{26}{28};$

h) $\frac{57}{63} : \frac{95}{72};$

- i) $\frac{96}{144} : \left(-\frac{72}{108}\right)$; j) $\left(-\frac{1080}{630}\right) : \frac{720}{1680}$;
- k) $\frac{1125}{405} : \frac{175}{945}$; l) $\left(-\frac{147}{245}\right) : \left(-\frac{540}{324}\right)$;
- m) $\left(-\frac{108}{1980}\right) : \frac{147}{245}$; n) $\frac{189}{756} : \left(-\frac{35}{175}\right)$;
- o) $\left(-\frac{150}{378}\right) : \left(-\frac{300}{324}\right)$; p) $\frac{64}{420} : \frac{192}{2646}$.

1.17. Izračunaj:

- a) $\frac{169}{26} : 13$; b) $\frac{1050}{700} : (-14)$;
- c) $(-24) : \frac{16}{36}$; d) $(-25) : \left(-\frac{15}{24}\right)$.

1.18. Izračunaj:

- a) $1\frac{2}{5} : 2\frac{4}{5}$; b) $\left(-8\frac{3}{4}\right) : \left(-2\frac{1}{12}\right)$;
- c) $\left(-2\frac{3}{8}\right) : 4\frac{3}{4}$; d) $5\frac{3}{5} : \left(-3\frac{4}{15}\right)$.

1.19. Izračunaj:

- a) $(-14) : 2\frac{4}{5}$; b) $36 : \left(-3\frac{3}{5}\right)$;
- c) $\left(-8\frac{3}{4}\right) : (-5)$; d) $10\frac{2}{5} : (-26)$.

1.20. Izračunaj:

- a) $\left(\frac{52}{108} : \frac{26}{27}\right) : \frac{2}{9}$; b) $\frac{52}{108} : \left(\frac{26}{27} : \frac{2}{9}\right)$;
- c) $\frac{52}{108} : \frac{26}{27} : \frac{2}{9}$; d) $\frac{84}{160} : \frac{3}{4} : \left(-\frac{7}{10}\right)$;
- e) $\frac{56}{124} : \left(-\frac{7}{16}\right) : \frac{4}{31}$; f) $\left(-\frac{72}{125}\right) : \frac{2}{5} : \frac{6}{5}$;
- g) $\frac{14}{15} : \frac{14}{15} : \left(-\frac{2}{3}\right)$; h) $\left(-\frac{14}{15}\right) : \frac{2}{3} : \frac{2}{3}$;
- i) $\frac{13}{17} : \left(-\frac{13}{17}\right) : \frac{13}{17}$.

1.21. Izračunaj:

- a) $3\frac{3}{5} \cdot \left(-\frac{5}{6}\right) : 1\frac{1}{2}$; b) $4\frac{1}{2} : 2\frac{1}{3} \cdot \left(-\frac{14}{27}\right)$;
- c) $\left(-12\frac{1}{4}\right) : 1\frac{3}{4} \cdot \left(-1\frac{5}{7}\right)$; d) $6\frac{3}{4} : (-9) \cdot \frac{4}{9}$;
- e) $24 : \left(-8\frac{1}{3}\right) \cdot \left(-\frac{5}{12}\right)$; f) $\left(-3\frac{1}{4}\right) : \left(-1\frac{5}{8}\right) : (-5)$.

1.22. Izračunaj:

- a) $2 \cdot \left(1 - \frac{5}{6}\right) + 4 : \left(\frac{2}{3} \cdot \frac{3}{4} + \frac{11}{2}\right);$
 b) $\left(\frac{1}{4} + \frac{2}{3}\right) \cdot \frac{1}{6} - \frac{2}{3} \cdot \left(1\frac{3}{4} - \frac{7}{12}\right);$
 c) $\frac{2}{5} : \frac{4}{9} - 3 \cdot \left(\frac{8}{9} - \frac{1}{2}\right) + \frac{1}{3} \cdot \left(1\frac{4}{5} - 2\right);$
 d) $\left(\frac{1}{7} \cdot 3\frac{1}{2} - \frac{1}{2}\right) : 6 - 3 \cdot \left(\frac{4}{5} \cdot 5\frac{5}{6} - \frac{5}{6} \cdot \frac{3}{10}\right);$
 e) $\frac{3}{4} : \left(3\frac{3}{5} : 1\frac{1}{2} + \frac{3}{4} \cdot 2\frac{2}{3}\right) - \frac{7}{8} \cdot \left(2\frac{4}{7} - 4\frac{3}{7}\right);$
 f) $\left(6\frac{1}{4} \cdot 3\frac{1}{5} - 3 : 4\frac{1}{2}\right) : 5\frac{4}{5} - 3\frac{4}{5} : \left(2\frac{2}{3} \cdot \frac{1}{4} + 1\frac{1}{2} : 2\frac{1}{2}\right).$

1.23. Izračunaj:

- a) $\left(-\frac{2}{5} + \frac{1}{3}\right) : \left(-\frac{3}{5}\right) + 8\frac{1}{3} : \left(-\frac{1}{2}\right) \cdot 4\frac{1}{5};$
 b) $\left[\frac{3}{4} : \left(-\frac{1}{2}\right) + \frac{3}{10} \cdot (-15)\right] : \left[-2\frac{2}{5} \cdot \left(-1\frac{1}{4}\right) - 1\right];$
 c) $\left[-3\frac{3}{7} : \left(-4\frac{4}{5}\right) - 2\frac{2}{3} : \left(-\frac{2}{3}\right)\right] \cdot \left[5\frac{1}{5} \cdot \left(-\frac{1}{13}\right) - \left(-\frac{1}{2}\right) : \left(-\frac{1}{2}\right)\right].$

1.24. Izračunaj:

- a) $\frac{\frac{4}{5} - \frac{3}{4}}{\frac{1}{6}};$ b) $\frac{1 - \frac{4}{9}}{\frac{1}{2} - \frac{1}{12}};$ c) $\frac{\frac{4}{25} + \frac{3}{5} \cdot \frac{2}{7}}{\frac{4}{5} : \frac{2}{7}}.$

1.25. Izračunaj:

- a) $\frac{\frac{1}{2} \cdot \left(-\frac{2}{3}\right) + \left(-\frac{3}{4}\right) \cdot (-2)}{\frac{4}{21} : \left(-\frac{4}{7}\right) + \left(-\frac{3}{5}\right) : \frac{2}{5}};$ b) $\frac{-\frac{2}{3} : \left(-\frac{1}{3}\right) + \frac{4}{11} : \left(-\frac{5}{11}\right)}{\frac{4}{9} \cdot \left(-\frac{3}{8}\right) - \left(-\frac{3}{4}\right) \cdot \left(-\frac{8}{15}\right)};$
 c) $\frac{-\frac{3}{4} \cdot \left(-\frac{4}{5}\right) - \frac{2}{7} : \left(-\frac{5}{14}\right)}{-\frac{2}{3} : \left(-\frac{5}{6}\right) + \left(-\frac{1}{5}\right) \cdot \frac{1}{2}}.$

1.26. Izračunaj:

- a) $\frac{\frac{1}{8} - \frac{1}{16}}{\frac{2}{3}} + 1\frac{1}{4} \cdot \frac{3}{10};$ b) $\frac{2\frac{3}{4} - 1\frac{4}{5}}{\frac{7}{8}} - \frac{6}{7} : 10;$

$$\text{c) } \frac{-1\frac{3}{5} + \left(-2\frac{2}{3}\right)}{-3\frac{1}{3} - \left(-4\frac{4}{5}\right)} - \left(-3\frac{1}{2}\right) : 2\frac{1}{3}; \quad \text{d) } 2\frac{4}{5} : \left(-1\frac{1}{5}\right) - \frac{-3\frac{1}{3} + 2\frac{1}{2}}{1 + \left(-3\frac{3}{5}\right)};$$

$$\text{e) } 3 : \frac{2}{7} + \frac{4 \cdot \left(\frac{3}{4} + \frac{1}{6}\right) : \frac{2}{9}}{6} - 2; \quad \text{f) } \frac{\frac{1}{17} \cdot \left(2 - \frac{4}{5}\right) - 3}{\frac{4}{7} - 2 : \frac{3}{4}} - \frac{3}{5} : \frac{4}{9};$$

$$\text{g) } 3\frac{3}{4} - \left(-2\frac{1}{2}\right) \cdot \frac{4\frac{1}{5} - \left(-3\frac{3}{5}\right)}{-1\frac{1}{2} + 3\frac{3}{4}} : \left(-4\frac{1}{3}\right) + \frac{1}{3};$$

$$\text{h) } 2\frac{1}{2} : \frac{-1\frac{1}{3} - \frac{1}{3} \cdot \left(-2\frac{1}{4}\right)}{6\frac{1}{4} + \left(-1\frac{1}{20}\right) \cdot \left(-1\frac{2}{3}\right)} + \left(-\frac{5}{7}\right);$$

$$\text{i) } \frac{\frac{9}{14} - \frac{2}{3} \cdot \left(\frac{5}{7} - \frac{1}{2}\right)}{\frac{4}{5} - \frac{3}{2} : 1\frac{5}{7}} : 3\frac{1}{3}; \quad \text{j) } \frac{3 \cdot (3 \cdot 21 - 9 \cdot 7)}{16} \cdot \frac{\frac{9}{28} \cdot \left(\frac{3}{7} + 5\frac{1}{2}\right)}{\frac{5}{18} : \frac{1}{2} - 3\frac{7}{9} \cdot 1\frac{2}{7}};$$

$$\text{k) } \frac{-\frac{8}{15} : \left(-3\frac{1}{5}\right) + \left(-\frac{1}{2}\right) \left(-2\frac{1}{2} - 3\frac{1}{2}\right)}{33 - \left(-1\frac{3}{4}\right) \cdot \left[-3\frac{3}{4} + 2\left(-2\frac{1}{8}\right)\right]} : \left(-2\frac{1}{2}\right);$$

$$\text{l) } -\frac{1}{2} : \frac{\left(-\frac{2}{3}\right) : \left[-\frac{2}{3} \cdot 2\frac{1}{2} - \left(-\frac{1}{2}\right)\right]}{\left[-1\frac{1}{2} \cdot \frac{1}{3} + \left(-\frac{1}{3}\right)\right] : \left(-2\frac{4}{5}\right)}.$$

1.27. Izračunaj:

$$\text{a) } 0.478 + 4.522; \quad \text{b) } 12.68 - 9.18; \quad \text{c) } 34.5 + 9.0173; \\ \text{d) } 58.46 + (-36.29); \quad \text{e) } 1.34 - (-0.27); \quad \text{f) } -28.38 - (-1.004).$$

1.28. Izračunaj:

$$\text{a) } 3.517 + 5.928 - 3.445; \quad \text{b) } 4.28 - 1.03 + (-31.3); \\ \text{c) } -0.3 - (-2.81) + 34.6; \quad \text{d) } -3.25 + 3.47 + (-0.21); \\ \text{e) } 3.29 - (-9.103) + (-0.92); \quad \text{f) } -9.3 + (-6) - (-7.5).$$

1.29. Izračunaj:

$$\text{a) } 0.32 \cdot 0.9; \quad \text{b) } 6.54 : 0.6; \quad \text{c) } 0.72 \cdot 42; \\ \text{d) } 25.942 : 3.4; \quad \text{e) } 3.36 \cdot (-2.3); \quad \text{f) } -3.25 : (-1.3).$$

1.30. Izračunaj:

$$\text{a) } 9.56 : 0.8 \cdot 0.6. \quad \text{b) } 2.56 \cdot 0.4 : (-3.2);$$

- c) $-1.863 : 6.21 : (-0.25)$; d) $3.05 \cdot (-1.2) \cdot 0.75$;
 e) $1.617 \cdot (-4) : (-2.1)$; f) $-8 : 3.2 \cdot 0.12$.

1.31. Izračunaj:

- a) $0.4 + 0.9 \cdot 3.4$; b) $7.3 - 4.2 \cdot 0.94$;
 c) $3.28 : 0.16 - 7.36$; d) $0.42 \cdot 3.1 - (-2.71)$;
 e) $-5 : 0.25 - 3.95$; f) $3.58 + (-0.6) \cdot 7.9$.

1.32. Izračunaj:

- a) $3.41 \cdot 7 + 2.8 : 3.5$; b) $-1.85 \cdot 4.2 - (-3.6) \cdot 0.83$;
 c) $-(-9.1) : (-2.6) + 1.8 : 4$; d) $12.6 : (-3.15) - (-2.16) : 0.54$;
 e) $-8.89 : 2.54 + 6 \cdot 0.24$; f) $-3.52 \cdot (-0.7) - (-2.00912) : (-0.58)$.

1.33. Izračunaj:

- a) $3.8 \cdot (-7.1) + 10 - (-5.396) \cdot 5$;
 b) $-4.5 : 0.3 - 4.8 : (-0.125) - 28.08 : 1.2$;
 c) $9.2 : 4 - (-3.1) + 6.75 \cdot (-5.4)$.

1.34. Izračunaj:

- a) $7.46 + 3.9 \cdot (0.19 + 0.18 \cdot 0.17)$;
 b) $3.14 \cdot [7.83 - 2 \cdot (9.14 + 3.86) - 5.1 : 4]$;
 c) $7 \cdot \{3.493 + 7 \cdot [9.44 - 3.18 : 0.25 \cdot (4.92 - 4.8) + 8 \cdot 0.0108] - 9.3 \cdot 7 + 8.01 \cdot 0.7\}$;
 d) $-13.5 \cdot 6.4 + (-9.73) \cdot [3.85 \cdot (-0.65) - (-10.01) : 4] : 3.49$;
 e) $9.6 : (-3.2) + [6.2 \cdot (-4) - (-20.592) : (-3.96) - 0.32] : (-7.58)$;
 f) $\{-4 \cdot [5.43 - (-2.53) \cdot 4] \cdot 1.5 - (-13.3)\} : 1.6 + (-33.8) : (-0.65)$.

1.35. Izračunaj:

- a) $\frac{9.1}{1.3}$; b) $\frac{8.55}{0.45}$; c) $\frac{5.1}{17}$; d) $\frac{218.4}{3.12}$;
 e) $\frac{-12.8}{2.56}$; f) $\frac{1.805}{-3.61}$; g) $\frac{-9.52}{-0.56}$; h) $\frac{54.84}{-9.14}$;
 i) $\frac{4.44}{3.7}$; j) $\frac{-3.5084}{-0.98}$; k) $\frac{-1.254}{4.18}$; l) $\frac{11.88}{-10.8}$.

1.36. Izračunaj:

- a) $\frac{1.18 - 0.7804}{0.74}$; b) $\frac{0.04 - 4}{2.4 + 3.1}$;
 c) $\frac{-(-31.5) + 29.376}{-7.6}$; d) $\frac{-0.895 - (-3.52)}{1.05}$.

1.37. Izračunaj:

$$\begin{array}{lll} \text{a)} \frac{0.48 \cdot 4}{0.96}; & \text{b)} \frac{3.969 : (-2.1)}{3.15}; & \text{c)} \frac{-28.83 : 0.75}{-12.4}; \\ \text{d)} \frac{-(-6.49) + 4.04}{0.18 \cdot (-4.5)}; & \text{e)} \frac{10.125 : 0.75}{-23.4 : (-3.12)}. \end{array}$$

1.38. Izračunaj:

$$\begin{array}{ll} \text{a)} \frac{0.34 \cdot 0.7 - 0.238}{3.4 \cdot 7.2 + 0.11}; & \text{b)} \frac{0.17 \cdot 0.19 - 0.4 \cdot 0.78}{3.14 \cdot 0.06 + 0.0913}; \\ \text{c)} \frac{2 \cdot (-3.62) - 3.96}{3.2 + (-7.4) - 3.8}; & \text{d)} \frac{-3.5 \cdot 0.98 - (-15.7046) : (-3.1)}{2.16 - (-0.4) : 2}; \\ \text{e)} \frac{7.3 \cdot (-2.7) + 3.45 : 1.5 + 2.3665}{2.18 : (-0.2) + (-2.41) \cdot 3.8}. \end{array}$$

1.39. Izračunaj:

$$\begin{array}{lll} \text{a)} \frac{0.4}{2.6} + \frac{2.5}{0.65}; & \text{b)} \frac{-3.2}{4.8} - \frac{2.24}{-0.64}; & \text{c)} \frac{1.875}{0.21} + \frac{21.98}{4.9}; \\ \text{d)} \frac{3}{-4.5} + \frac{-2.8}{0.12}; & \text{e)} \frac{3.92}{2.2} - \frac{-6.12}{-13.2}; & \text{f)} \frac{2.52}{2.94} - \left(-\frac{9}{4.2} \right). \end{array}$$

1.40. Izračunaj:

$$\text{a)} \frac{0.65}{2.18} \cdot \frac{6.976}{2.34}; \quad \text{b)} \frac{-2.17}{0.15} \cdot \frac{0.9}{1.953}; \quad \text{c)} \frac{-3.5}{9.17} \cdot \frac{-2.751}{-1.05}.$$

1.41. Izračunaj:

$$\text{a)} \frac{3.25}{0.7} : \frac{13.975}{0.301}; \quad \text{b)} \frac{0.76}{-4.91} : \frac{-1.9}{2.455}; \quad \text{c)} \frac{-3.07}{-0.23} : \frac{1.4736}{-1.84}.$$

1.42. Izračunaj:

$$\begin{array}{ll} \text{a)} \frac{0.1 + 0.7 \cdot 2.5}{4.95 - 3} + \frac{0.8}{3.9}; & \text{b)} \frac{4 \cdot 6.85 - 20.2}{3.15 - 6.82 + 8.93} \cdot \frac{22.355}{3.6}; \\ \text{c)} \frac{3.4 \cdot 0.81 - 0.162}{3.24} - \frac{5.265}{0.81}; & \text{d)} \frac{4 \cdot 0.92 - (-2.488 : 40)}{2.18 - 3.2 : 0.16} \cdot \frac{-3.4}{0.357}. \end{array}$$

1.43. Izračunaj:

$$\begin{array}{l} \text{a)} \frac{3.75 - 6.03}{0.98} : \frac{19 \cdot (-0.3)}{0.35}; \\ \text{b)} \frac{5.42 - (-0.18)}{-6.11 \cdot 0.5} : \frac{7.8 \cdot (-2.3) + 6.18}{5.1324 : (-2.4)}. \end{array}$$

1.44. Izračunaj:

$$\begin{array}{ll} \text{a)} \frac{2}{3} \cdot 0.69 - 7 \cdot \left(3.94 - \frac{1}{2} \right); & \text{b)} -\frac{1}{4} \cdot 3.96 + 2.7 \cdot \left(\frac{3}{8} - \frac{5}{6} \right); \\ \text{c)} \frac{2.65 \cdot (-1.4)}{(4 - 0.1045) : 1.05} + \frac{4}{9} \cdot \left(3.25 - \frac{5}{12} \right). \end{array}$$

1.45. Izračunaj:

$$\text{a) } \frac{\frac{3915}{7} : 15 - \frac{87}{7} : \frac{1}{3}}{4.65 + 0.26 \cdot \frac{1}{2}};$$

$$\text{b) } \frac{20.48 : 32}{\frac{1}{4} \cdot \left(\frac{2}{5} + 0.6\right)} + 0.44;$$

$$\text{c) } \frac{\frac{1}{3}(7.18 - 0.01)}{\frac{1}{4} \cdot 0.6} + \frac{1}{15};$$

$$\text{d) } \frac{\frac{2}{7} + 3.5 \cdot \left(-\frac{14}{25}\right)}{-\frac{2}{3.5} \cdot (8.19 - 4.72)} + \frac{57.45}{34.7};$$

$$\text{e) } \frac{\frac{9}{20} - (-4.48)}{-2.9 \cdot \left[\frac{1}{4} - (-0.25)\right]} + \left(-\frac{1}{5}\right) \cdot (2.18 + 3.02);$$

$$\text{f) } \frac{\frac{12}{35} \cdot (5.8 + 1.2)}{2.85 + (-0.4) \cdot \frac{3}{15}} - \frac{14.4}{-3.324 : (-0.2)};$$

$$\text{g) } \frac{-0.72}{2\frac{49}{50}} \cdot \frac{9\frac{119}{500}}{-4.464} + \frac{-9 + 0.2125}{7.03};$$

$$\text{h) } -18\frac{2}{7} \cdot [2.96 - (-0.19)] + 4.5 \cdot \left[-2\frac{4}{9} - \left(-8\frac{2}{5}\right)\right];$$

$$\text{i) } \frac{\frac{13.61}{0.35} \cdot \left(-2\frac{1}{5} + 3\frac{2}{3}\right)}{3\frac{3}{7} - (-0.46)} - \left(-\frac{-2}{3}\right) \cdot (3.19 + 0.06).$$

1.2. Uređaj u skupu racionalnih brojeva

1.46. Usporedi racionalne brojeve:

$$\text{a) } \frac{1}{4} \text{ i } \frac{3}{4};$$

$$\text{b) } \frac{12}{5} \text{ i } \frac{10}{5};$$

$$\text{c) } -\frac{1}{6} \text{ i } -\frac{5}{6}.$$

1.47. Usporedi racionalne brojeve:

$$\text{a) } \frac{4}{5} \text{ i } \frac{5}{4};$$

$$\text{b) } \frac{4}{5} \text{ i } -\frac{5}{4};$$

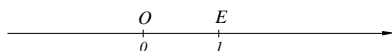
$$\text{c) } -\frac{4}{5} \text{ i } -\frac{5}{4};$$

- d) $\frac{2}{3}$ i $\frac{6}{9}$; e) $\frac{5}{7}$ i $\frac{7}{9}$; f) $1\frac{1}{2}$ i $\frac{3}{4}$;
 g) $\frac{3}{7}$ i 0.43; h) $\frac{17}{13}$ i 1.26; i) 3.4 i $\frac{51}{15}$.

- 1.48. Poredaj brojeve -2 , $\frac{1}{4}$, $\frac{7}{5}$, $-\frac{12}{3}$, 1 , $\frac{2}{3}$ od najmanjega do najvećega.
- 1.49. Poredaj brojeve 1.94 , -3 , $\frac{63}{31}$, -1.38 , $-\frac{7}{8}$, 2.05 , $\frac{2}{5}$ od najmanjega do najvećega.
- 1.50. Koji od brojeva 0 , $1\frac{3}{5}$, $-\frac{5}{7}$, $\frac{5}{2}$, $-\frac{1}{4}$, $\frac{15}{14}$ nisu između brojeva $-\frac{2}{3}$ i $1\frac{1}{3}$?
- 1.51. Koji su od brojeva 0.47 , 3.28 , -1.27 , 4.28 , -1.01 između brojeva $-\frac{15}{14}$ i $\frac{25}{6}$?
- 1.52. Koliko je racionalnih brojeva između brojeva $-\frac{1}{3}$ i $\frac{1}{2}$? Napiši tri takva racionalna broja.
- 1.53. Koliko je racionalnih brojeva između brojeva $\frac{2}{3}$ i $\frac{3}{4}$? Napiši tri takva racionalna broja.
- 1.54. Skrati potpuno razlomke:
 a) $\frac{126}{168}$; b) $\frac{462}{1155}$; c) $-\frac{6783}{2907}$.
- 1.55. Koji je od razlomaka $\frac{15015}{19305}$, $-\frac{5950}{7650}$, $\frac{1512}{2304}$, $\frac{-8372}{-10764}$ jednak razlomku $\frac{7}{9}$?

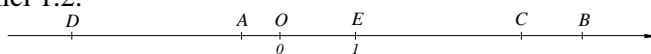
1.3. Pridruživanje racionalnih brojeva i točaka pravca

- 1.56. Odredi one točke pravca na sl. 1.1. kojima su pridruženi brojevi 2 , -1 i $\frac{1}{2}$.



Sl. 1.1.

- 1.57. Odredi koji su racionalni brojevi pridruženi točkama A , B , C i D pravca na slici 1.2.



Sl. 1.2.

- 1.58.** Na pravcu prikazanom na slici 1.3. odredi položaj točke O kojoj je pridružen broj 0 .



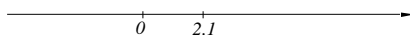
Sl. 1.3.

- 1.59.** Točkama su A i B pravca na slici 1.4. pridruženi brojevi $-\frac{2}{3}$ i 4 . Odredi one točke tog pravca kojima su pridruženi brojevi 0 i 1 .



Sl. 1.4.

- 1.60.** Na pravcu su (sl. 1.5.) istaknute točke kojima su pridruženi brojevi 0 i 2.1 . Odredi točke toga pravca kojima su pridruženi brojevi -2.5 , 1.5 i 4.4 .



Sl. 1.5.

1.4. Skup realnih brojeva

- 1.61.** Izračunaj ne koristeći računalo:

- a) $(4 + 4 : 2) \cdot [(36 - 6 \cdot 2) \cdot 2 - 2 \cdot 21]$;
 b) $[-4 + 4(2 - 2 \cdot 1) - 12 : 4 + 1] : 2 + 1$;
 c) $5 - 3[2 - 4(4 \cdot 2 - 2 \cdot 3) \cdot 3 - 8 : (-4)]$;
 d) $6 : 2[3 - (5 \cdot 3 - 3 \cdot 7) : (2 : 2 - 6 : 3)]$;
 e) $[18 \cdot (52 : 3 + 5) - 11 \cdot 12] : [85 - (8 + 3 \cdot 3) + 6(2 \cdot 7 - 144 : 36) - 98]$;
 f) $36(-1) + 2 \cdot [8 : (2 \cdot 11 - 10 \cdot 2)(6 \cdot 2 - 2 \cdot 2)] : 8 - 1$;
 g) $(1\frac{2}{5} + 3.5 : 1\frac{1}{4}) : 2\frac{2}{5} + 3.4 : 2\frac{1}{8} - 0.35$;
 h) $\left[\left(1\frac{1}{7} - \frac{23}{49} \right) : \frac{22}{147} - \left(0.6 : 3\frac{3}{4} \right) \cdot 2\frac{1}{2} + 3.75 : 1\frac{1}{2} \right] : 2.2$;
 i) $\frac{9}{20} + \left[\frac{5}{8} \cdot \left(\frac{1}{3} + \frac{3}{5} \right) + \frac{2}{9} : \frac{2}{3} \right] : \left[3.125 : \left(\frac{2}{3} + \frac{7}{12} \right) - \frac{1}{4} : \frac{3}{10} \right]$;
 j) $\left[-\frac{30}{4} \cdot (-0.2) + \frac{5}{12} : \frac{5}{4} \right] : \left[2 + \frac{3}{4} : (-0.25) \right] - \left(\frac{3}{4} + \frac{4}{3} \right)$.

1.62. Izračunaj ne koristeći računalo:

$$\text{a) } \left(\frac{3\frac{1}{3} + 2.5}{2.5 - 1\frac{1}{3}} \cdot \frac{4.6 - 2\frac{1}{3}}{4.6 + 2\frac{1}{3}} \cdot 5.2 \right) : \left(\frac{0.05}{\frac{1}{7} - 0.125} + 5.7 \right);$$

$$\text{b) } \frac{0.4 + 8\left(5 - 0.8 \cdot \frac{5}{8}\right) - 5 : 2\frac{1}{2}}{\left[1\frac{7}{8} \cdot 8 - \left(8.9 - 2.6 : \frac{2}{3}\right)\right] \cdot 34\frac{2}{5}} \cdot 90.$$

1.63. Izračunaj pomoću računala:

$$\text{a) } 2\sqrt{2} + 3\sqrt{2};$$

$$\text{b) } 7\sqrt{3} - 4\sqrt{3};$$

$$\text{c) } 3\sqrt{2} - \sqrt{3} + \sqrt{2};$$

$$\text{d) } 4\sqrt{2} + 2(\sqrt{3} - \sqrt{2}) + 4\sqrt{3}.$$

1.64. Izračunaj pomoću računala $x + y$ i $x - y$ ako je:

$$\text{a) } x = \sqrt{5} - \sqrt{2}, y = \sqrt{5} + \sqrt{2};$$

$$\text{b) } x = \sqrt{2} + \sqrt{3} + \sqrt{5}, y = -\sqrt{2} - 2\sqrt{5};$$

$$\text{c) } x = 3 + 2\pi, y = \pi - 5;$$

$$\text{d) } x = 1 - \pi, y = 2 - 4\pi.$$

1.65. Izračunaj pomoću računala $x \cdot y$ i $x : y$ ako je:

$$\text{a) } x = 3 + \sqrt{2}, y = \sqrt{2} - 5; \quad \text{b) } x = 4 - \pi, y = 3 + 2\pi;$$

$$\text{c) } x = \sqrt{5} + 2\sqrt{3}, y = 3\sqrt{3} - \sqrt{5};$$

$$\text{d) } x = 2 - \sqrt{3} + 3\sqrt{5}, y = \sqrt{5} + 3\sqrt{2}.$$

1.5. Brojevni pravac

1.66. Odredi točku na brojevnom pravcu kojoj je pridružen broj $\sqrt{7}$.

1.67. Odredi koordinatu x točke $T(x)$ na pozitivnom dijelu koordinatne osi, ako je $|ET| = 5$, pri čemu je E jedinična točka koordinatne osi.

1.68. Koji je broj pridružen onoj točki koordinatne osi koja je od ishodišta udaljena koliko i točka $A(5)$?

1.69. Odredi točku $T(x)$ na negativnom dijelu koordinatne osi koja je udaljena od točke $A(3)$ koliko i točka $B(10)$.

1.70. Odredi točke A i B kojima je udaljenost od ishodišta koordinatne osi za tri veća od duljine jedinične dužine.

1.71. Odredi koordinate točaka koje su od od jedinične točke koordinatne osi udaljene onoliko koliko je točka $T(4)$ udaljena od ishodišta te koordinatne osi.

- 1.72. Neka je $|AB| = \sqrt{2}$. Odredi koordinatu x točke T negativnog dijela koordinatne osi tako da duljina dužine \overline{OT} bude jednaka dvostrukoj duljini dužine \overline{AB} .

1.6. Osnovna svojstva zbrajanja i množenja realnih brojeva

- 1.73. Izračunaj:

a) $3(2 + 0.65)$; b) $\frac{2}{3}\left(3 - 4\frac{1}{2}\right)$; c) $3\frac{1}{5}(0.76 + 2.54)$.

- 1.74. Izračunaj pomoću računala:

a) $2(\sqrt{3} - 4)$; b) $\sqrt{5}\left(\frac{5}{8} - 8.45\right)$; c) $3\frac{2}{3}\left(0.13 + \frac{1}{2} + 4\pi\right)$.

- 1.75. Izračunaj:

a) $2(a - 3)$; b) $\frac{1}{3}(3b + 1)$; c) $4\left(\frac{1}{2}a + 2b\right)$; d) $5\left(3 - a + \frac{1}{5}b\right)$;
 e) $a(b - 4)$; f) $c(a - b)$; g) $a(2 - b)$; h) $x(y - 3)$;
 i) $b(a - b)$; j) $3a\left(\frac{1}{2} - 3a\right)$; k) $ab(b - 2a)$; l) $2a\left(b - \frac{1}{2}a\right)$.

- 1.76. Izračunaj:

a) $5(a + b) - 4(a - b)$; b) $2.68(7a - b) + 5.3(3b - a)$;
 c) $\frac{1}{2}(4x - 3y) + \frac{3}{4}\left(\frac{2}{3}x + y\right)$; d) $0.5\left(3 - \frac{1}{2}a\right) + 4(a - 0.125b)$.

- 1.77. Izračunaj:

a) $a(5 - b) + b\left(\frac{3}{2}a - 2\right)$; b) $2a(3 - 4c) + a\left(9c - 1\frac{3}{4}\right)$;
 c) $0.25a(4b - c) + ac(1 - b)$; d) $ab(3 - a) + 4a(b - a)$;
 e) $x(x - 5y) + 0.5y(y - 3x)$; f) $ab(c - a) - bc(a - b)$.

- 1.78. Izračunaj:

a) $(3 - a)(b - 4)$; b) $\left(x + \frac{1}{2}\right)(2y + 4)$; c) $(2a - 5)(3 + b)$;
 d) $(a - 3b)(b - 1)$; e) $(2a - b)(a + 2b)$; f) $(b - a)(2b + 3a)$.

- 1.79. Izračunaj:

a) $(a - 1)(b + 5) + (a + 3)(2 - b)$;
 b) $(3 - 2a)(4 - b) - (b + 1)(4 - a)$;
 c) $(x - 2)(2 - y) - (2 - x)(y - 2)$;
 d) $(2a - 3)(a - b) + (b + a)(2 - a)$;