

Ime in priimek: _____

1. Izračunaj (rezultat zapiši z okrajšanim ulomkom).

a) $\frac{5}{8} + \frac{3}{8} = \frac{8}{8} = 1$

b) $3\frac{2}{5} - \frac{1}{4} = 3\frac{8}{20} - \frac{5}{20} = 3\frac{3}{20}$ c) $1\frac{5}{7} + 2\frac{9}{14} = 1\frac{10}{14} + 2\frac{9}{14} = 3\frac{19}{14} = 4\frac{5}{14}$

d) $4\frac{1}{6} - 1\frac{2}{3} = 4\frac{1}{6} - 1\frac{4}{6} = 3\frac{7}{6} - 1\frac{4}{6} = 2\frac{3}{6} = 2\frac{1}{2}$

e) $6\frac{3}{5} + \frac{1}{6} = 6\frac{18}{30} + \frac{5}{30} = 6\frac{23}{30}$

f) $5 - \frac{18}{5} = \frac{25}{5} - \frac{18}{5} = \frac{7}{5} = 1\frac{2}{5}$

g) $\frac{3}{9}$ od 36 = $\frac{3 \cdot 36}{9} = \frac{12}{1} = 12$

h) $\frac{7}{9} \cdot \frac{3}{14} = \frac{1}{6}$

i) $4\frac{1}{3} \cdot 1\frac{2}{13} = \frac{13}{3} \cdot \frac{15}{13} = \frac{5}{1} = 5$

j) $\frac{2}{7} : 4 = \frac{2}{7} : \frac{4}{1} = \frac{2}{7} \cdot \frac{1}{4} = \frac{1}{14}$

k) $\frac{3}{16} : \frac{9}{24} = \frac{3}{16} \cdot \frac{24}{9} = \frac{1}{2}$

l) $4\frac{3}{8} : 3\frac{3}{4} = \frac{35}{8} : \frac{15}{4} = \frac{35}{8} \cdot \frac{4}{15} = \frac{7}{6} = 1\frac{1}{6}$

m) $\frac{4}{5} : \frac{5}{7} = \frac{4}{5} : \frac{5}{7} = \frac{4 \cdot 7}{5 \cdot 5} = \frac{28}{25} = 1\frac{3}{25}$

n) $0,6 : 1\frac{3}{5} = \frac{6}{10} : \frac{8}{5} = \frac{6}{10} \cdot \frac{5}{8} = \frac{3}{8}$

o) $\frac{3}{5} : \frac{9}{10} : \frac{7}{2} = \frac{3}{5} \cdot \frac{10}{9} \cdot \frac{2}{7} = \frac{2}{3} \cdot \frac{2}{7} = \frac{4}{21}$

p) $5 \cdot 0,3 + 4 \cdot \frac{1}{2} = 1,5 + 2 = 3,5 = 3\frac{1}{2}$

r) $3,5 - \frac{3}{4} \cdot 1,5 + \frac{1}{2} = 3\frac{1}{2} - \frac{3}{4} \cdot \frac{15}{10} + \frac{1}{2} = 3\frac{1}{2} - \frac{45}{40} + \frac{1}{2} = 3\frac{1}{2} - 1\frac{1}{8} + \frac{1}{2} = 3\frac{4}{8} - 1\frac{1}{8} + \frac{4}{8} = 2\frac{7}{8}$

s) $0,25 \cdot \frac{4}{5} : 1,8 = \frac{1}{4} \cdot \frac{4}{5} : \frac{9}{5} = \frac{1}{5} : \frac{9}{5} = \frac{1}{5} \cdot \frac{5}{9} = \frac{1}{9}$

š) $\frac{3}{2} \cdot \frac{4}{5} : \frac{9}{10} = \frac{12}{10} : \frac{9}{10} = \frac{4}{3} = 1\frac{1}{3}$

t) $\left(\frac{18}{25} + \frac{9}{5}\right) : \frac{36}{5} = \left(\frac{18}{25} + \frac{45}{25}\right) : \frac{36}{5} = \frac{63}{25} : \frac{36}{5} = \frac{63}{25} \cdot \frac{5}{36} = \frac{7}{20}$

u) $24 \cdot \left(\frac{3}{8} - \frac{1}{12}\right) : \frac{36}{5} = 24 \cdot \left(\frac{9}{24} - \frac{2}{24}\right) : \frac{36}{5} = 24 \cdot \frac{7}{24} : \frac{36}{5} = 7 : \frac{36}{5} = \frac{7 \cdot 5}{36} = \frac{35}{36}$

v) $(1,5 + (2\frac{1}{3} - \frac{1}{4})) \cdot 3\frac{3}{7} = (1,5 + (2\frac{4}{12} - \frac{3}{12})) \cdot 3\frac{3}{7} = (1,5 + 2\frac{1}{12}) \cdot 3\frac{3}{7} = (\frac{15}{10} + \frac{25}{12}) \cdot 3\frac{3}{7} = (\frac{90}{60} + \frac{125}{60}) \cdot 3\frac{3}{7} = \frac{215}{60} \cdot 3\frac{3}{7} = \frac{215}{60} \cdot \frac{24}{7} = \frac{215 \cdot 24}{60 \cdot 7} = \frac{215 \cdot 4}{5 \cdot 7} = \frac{860}{35} = 24\frac{4}{7}$

z) $\frac{(3\frac{1}{3})}{(2\frac{1}{2} + 3\frac{3}{4})} = 3\frac{1}{3} : (2\frac{1}{2} + 3\frac{3}{4}) = 3\frac{1}{3} : (2\frac{2}{4} + 3\frac{3}{4}) = 3\frac{1}{3} : 5\frac{5}{4} = \frac{10}{3} : \frac{25}{4} = \frac{10}{3} \cdot \frac{4}{25} = \frac{8}{15}$

z) $\frac{(3\frac{1}{3})}{(2\frac{1}{2} + 3\frac{3}{4})} = 3\frac{1}{3} : (2\frac{1}{2} + 3\frac{3}{4}) = 3\frac{1}{3} : (2\frac{2}{4} + 3\frac{3}{4}) = 3\frac{1}{3} : 5\frac{5}{4} = \frac{10}{3} : \frac{25}{4} = \frac{10}{3} \cdot \frac{4}{25} = \frac{8}{15}$

2. Izračunaj.

a) $10,5 - \left(5\frac{1}{3} - \left(1\frac{1}{6} - \frac{1}{12}\right) + 2,25\right) =$

$= 10,5 - \left(5\frac{1}{3} - \left(1\frac{2}{12} - \frac{1}{12}\right) + 2,25\right) =$

$= 10,5 - \left(5\frac{1}{3} - 1\frac{1}{12} + 2,25\right) =$

$= 10,5 - \left(5\frac{4}{12} - 1\frac{1}{12} + 2\frac{25}{100}\right) =$

$= 10,5 - \left(4\frac{3}{12} + 2\frac{3}{4}\right) =$

$= 10,5 - \left(4\frac{3}{12} + 2\frac{3}{4}\right) = 4$

c) $\left(\frac{4}{5} + \frac{2}{3} - 1\frac{1}{15}\right) : 1\frac{1}{5} =$

$= \left(\frac{12}{15} + \frac{10}{15} - 1\frac{1}{15}\right) : 1\frac{1}{5} =$

$= \left(\frac{22}{15} - \frac{1}{15}\right) : 1\frac{1}{5} =$

$= \frac{6}{15} : \frac{6}{5} =$

$= \frac{1}{3}$

b) $\frac{1}{5} : 2 + 1,5 : \frac{1}{4} - 1 \cdot 1,3 =$

$= \frac{1}{5} : \frac{2}{1} + \frac{15}{10} : \frac{1}{4} - 1 \cdot \frac{13}{10} =$

$= \frac{1 \cdot 1}{5 \cdot 2} + \frac{15 \cdot 4}{10 \cdot 1} - \frac{13}{10} =$

$= \frac{1}{10} + 6 - 1\frac{3}{10} =$

$= 6\frac{1}{10} - 1\frac{3}{10} = 5\frac{4}{10} = 4\frac{4}{5}$

č) $2,7 - \left(\frac{1}{2} + 1\frac{2}{3}\right) : \frac{5}{6} =$

$= 2,7 - \left(\frac{3}{6} + 1\frac{4}{6}\right) : \frac{5}{6} =$

$= 2,7 - 1\frac{7}{6} : \frac{5}{6} =$

$= 2\frac{7}{10} - \frac{13}{6} : \frac{5}{6} =$

$= 2\frac{7}{10} - \frac{13}{5} = 2\frac{7}{10} - 2\frac{3}{5} =$

$= 2\frac{7}{10} - 2\frac{6}{10} = \frac{1}{10}$

3. Zapiši izraz in ga izračunaj!

a) Izračunaj razliko produkta in vsote števil $5\frac{3}{4}$ in $2\frac{1}{4}$.

b) Od vsote števil 33,2 in 5,1 odštej produkt števil 72,1 in 0,48.

c) Od števila 3,75 odštej razliko števil $3\frac{1}{6}$ in $1\frac{7}{8}$.

č) Količnik števil $6\frac{2}{3}$ in $4\frac{1}{6}$ pomnoži z razliko števil $5\frac{1}{4}$ in $2\frac{1}{4}$.

b) $(33,2 + 5,1) - 72,1 \cdot 0,48 = 38,3 - 34,608 = 3,692$

VSOTE ODŠTEJ PRODUKT

c) $3,75 - \left(3\frac{1}{6} - 1\frac{7}{8}\right) = 3,75 - \left(3\frac{4}{24} - 1\frac{21}{24}\right) = 3,75 - \left(2\frac{28}{24} - 1\frac{21}{24}\right) = 3,75 - 1\frac{7}{24} = 3\frac{3}{4} - 1\frac{7}{24} =$

ODŠTEJ RAZLIKA

$= 3\frac{18}{24} - 1\frac{7}{24} = 2\frac{11}{24}$

č) $\left(6\frac{2}{3} : 4\frac{1}{6}\right) \cdot \left(5\frac{1}{4} - 2\frac{1}{4}\right) = \left(6\frac{2}{3} : 4\frac{1}{6}\right) \cdot \left(5\frac{3}{12} - 2\frac{4}{12}\right) = \left(\frac{20}{3} : \frac{25}{6}\right) \cdot \left(4\frac{15}{12} - 2\frac{4}{12}\right) =$

KOLIČNIK POMNOŽI RAZLIKA

$= \left(\frac{20}{3} : \frac{25}{6}\right) \cdot 2\frac{11}{12} = \left(\frac{20 \cdot 6}{3 \cdot 25}\right) \cdot 2\frac{11}{12} = \left(\frac{8}{5}\right) \cdot 2\frac{11}{12} = \frac{14}{3} = 4\frac{2}{3}$

4. Dopolni:

Ulomek delimo z ulomkom tako, da ga pomnožimo s obratno vrednostjo drugega ulomka.

Ulomke z različnimi imenovalci odštevamo tako, da jih najprej razširimo na skupni imenovalac, nato pa števce odštejemo.

5. Reši enačbe.

a.) $0,117 + x = 1$

$x = 1 - 0,117$

$x = 0,883$

$R = \{0,883\}$

b) $x - 1\frac{2}{3} = 2,4$

$x = 2,4 + 1\frac{2}{3}$

$x = 2\frac{4}{10} + 1\frac{2}{3}$

$x = 2\frac{12}{30} + 1\frac{20}{30}$

$x = 3\frac{32}{30}$

$x = 4\frac{1}{15}$

$R = \{4\frac{1}{15}\}$

c) $\frac{2}{5} + x = \frac{7}{5}$

$x = \frac{7}{5} - \frac{2}{5}$

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

$x = 1$

$R = \{1\}$

č.) $x \cdot 4,5 = 2\frac{1}{7}$

$x = 2\frac{1}{7} : 4,5$

$x = \frac{15}{7} : \frac{45}{10}$

$x = \frac{15 \cdot 10}{7 \cdot 45}$

$x = \frac{10}{21}$

$R = \{\frac{10}{21}\}$

d) $14 : y = 1\frac{2}{5}$

$y = 14 : 1\frac{2}{5}$

$y = \frac{14 \cdot 5}{1 \cdot \frac{7}{5}}$

$y = 10$

$R = \{10\}$

e) $y - \frac{19}{7} = \frac{35}{21}$

$y = \frac{35}{21} + \frac{19}{7}$

$y = \frac{35}{21} + \frac{57}{21}$

$y = \frac{92}{21} = 4\frac{8}{21}$

$R = \{4\frac{8}{21}\}$

J. Zapiši enačbo in jo reši.

a) S katerim številom moramo deliti $2\frac{1}{3}$, da dobiš $1\frac{2}{5}$?

$$\begin{aligned} 2\frac{1}{3} : x &= 1\frac{2}{5} \\ x &= 2\frac{1}{3} : 1\frac{2}{5} \\ x &= \frac{7}{3} : \frac{7}{5} \\ x &= \frac{7}{3} \cdot \frac{5}{7} \\ x &= \frac{5}{3} = 1\frac{2}{3} \end{aligned}$$

$$R = \{1\frac{2}{3}\}$$

b) Razliko števil $7\frac{1}{3}$ in $2\frac{2}{9}$ zmanjšaj za x , tako da dobiš $\frac{5}{6}$.

$$\begin{aligned} (7\frac{1}{3} - 2\frac{2}{9}) - x &= \frac{5}{6} \\ (7\frac{3}{9} - 2\frac{2}{9}) - x &= \frac{5}{6} \\ 5\frac{1}{9} - x &= \frac{5}{6} \end{aligned}$$

$$\begin{aligned} x &= 5\frac{1}{9} - \frac{5}{6} \\ x &= 5\frac{2}{18} - \frac{15}{18} \\ x &= 4\frac{20}{18} - \frac{15}{18} \end{aligned}$$

$$x = 4\frac{5}{18}$$

$$R = \{4\frac{5}{18}\}$$

7. Izračunaj vrednost izraza $4 \cdot x + 5 \cdot y - 6 \cdot z$, če je $x = 2\frac{1}{8}$, $y = 3\frac{2}{5}$ in $z = \frac{5}{6}$.

$$\begin{aligned} 4 \cdot 2\frac{1}{8} + 5 \cdot 3\frac{2}{5} - 6 \cdot \frac{5}{6} &= \\ = \frac{4}{1} \cdot \frac{17}{8} + \frac{5}{1} \cdot \frac{17}{1} - \frac{6}{1} \cdot \frac{5}{6} &= \\ = \frac{17}{2} + 17 - 5 &= 8\frac{1}{2} + 17 - 5 = 25\frac{1}{2} - 5 = 20\frac{1}{2} \end{aligned}$$

8. Na polici je $\frac{1}{6}$ strokovnih knjig, $\frac{1}{4}$ je učbenikov, preostale knjige so leposlovne.

Kolikšen del je leposlovnih knjig?

$$\begin{aligned} \text{STROKOVNE: } \frac{1}{6} \quad \text{UČBENIKI: } \frac{1}{4} \quad \text{LEPOSLOVNE: } \frac{7}{12} \\ \frac{1}{6} + \frac{1}{4} = \frac{2}{12} + \frac{3}{12} = \frac{5}{12} \end{aligned}$$

STROKOVNIH IN UČBENIKOV

OSTALE

O: $\frac{7}{12}$ je leposlovnih.

9. Pohodnik je prehodil prvi dan $18\frac{3}{5}$ km, dolgo pot, drugi dan $2\frac{4}{10}$ km več kot prvi dan, tretji dan $1\frac{7}{10}$ km manj kot drugi dan. Koliko km je pohodnik prehodil v treh dneh skupaj?

$$\begin{aligned} 1. \text{ dan: } 18\frac{3}{5} \text{ km} \\ 2. \text{ dan: } 18\frac{3}{5} + 2\frac{4}{10} &= 18\frac{6}{10} + 2\frac{4}{10} = 21 \text{ km} \\ 3. \text{ dan: } 21 - 1\frac{7}{10} &= 20\frac{10}{10} - 1\frac{7}{10} = 19\frac{3}{10} \text{ km} \\ 18\frac{6}{10} + 21 + 19\frac{3}{10} &= 18\frac{6}{10} + 21 + 19\frac{3}{10} = \\ &= 39\frac{6}{10} + 19\frac{3}{10} = 58\frac{9}{10} \text{ km} \end{aligned}$$

10. Jan želi s trakom oblepiti $1\frac{4}{5}$ m visoka in $\frac{3}{4}$ m široka vrata. Ali bo 16m trak zadoščal za tesnitev treh vrat?



$$\sigma = 2 \cdot a + 2 \cdot b$$

$$\sigma = 2 \cdot 1\frac{4}{5} + 2 \cdot \frac{3}{4}$$

$$\sigma = 2 \cdot \frac{9}{5} + 2 \cdot \frac{3}{4} = \frac{18}{5} + \frac{3}{2} = \frac{36}{10} + \frac{15}{10} = \frac{51}{10} = 5\frac{1}{10} \text{ m}$$

$$\sigma = \frac{18 \cdot 4}{5 \cdot 4} + \frac{6 \cdot 5}{4 \cdot 5} = \frac{72}{20} + \frac{30}{20} = \frac{102}{20} = 5\frac{2}{20} = 5\frac{1}{10} \text{ m}$$

O: Da.

$$16 \text{ m} > 5\frac{1}{10} \text{ m}$$

11. V skladišču je bilo 200 kg sadja. Prvi kupec je za ozimnico nabavil 6 zabojev po $15\frac{1}{2}$ kg jabolk. Drugi je kupil 8 zabojev po $8\frac{3}{4}$ kg breskev in tretji 5 zabojev po $4\frac{2}{5}$ kg češenj. Koliko kilogramov sadja je še ostalo?

$$① 6 \cdot 15\frac{1}{2} = 6 \cdot \frac{31}{2} = \frac{186}{2} = 93 \text{ kg}$$

$$③ 5 \cdot 4\frac{2}{5} = 5 \cdot \frac{22}{5} = 22 \text{ kg}$$

$$② 8 \cdot 8\frac{3}{4} = 8 \cdot \frac{35}{4} = \frac{280}{4} = 70 \text{ kg}$$

$$200 - (93 + 70 + 22) = 200 - 185 = 15 \text{ kg}$$

O: Ostalo je 15 kg sadja.

12. Dopolni:

Trikotnik, ki ga preslikam čez premico se preslika v nasprotno orientiran, skladen trikotnik.

Točke, ki ležijo na osi zrcaljenja, se preslikajo same vase. Imenujemo jih negibne točke.

Krožnica se prezrcali sama vase kadar ima središče na osi zrcaljenja.

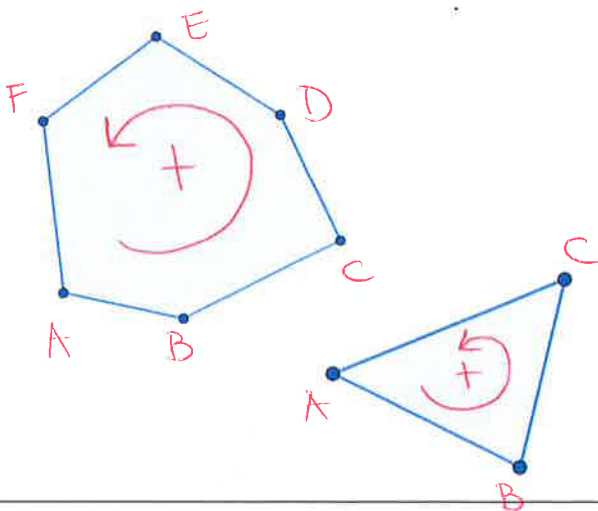
13. Iz črk slovenske abecede izpiši tiste, ki so:

a) Središčno somerne: N, Z, I, O

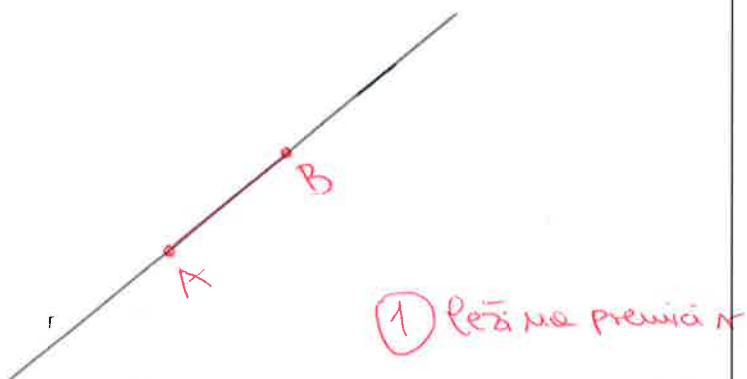
b) Oso somerne: U, K, M, V, T, A, B, C, D, E, H, I, O, S

ABCČDEF
GHIJKLM
NOPRSŠT
UVZŽ

14. Označi oglišča tako, da bosta lika orientirana pozitivno.



15. Ali lahko postaviš daljico AB tako, da se bo prezrcalila čez premico r sama nase? Poišči vse možnosti.



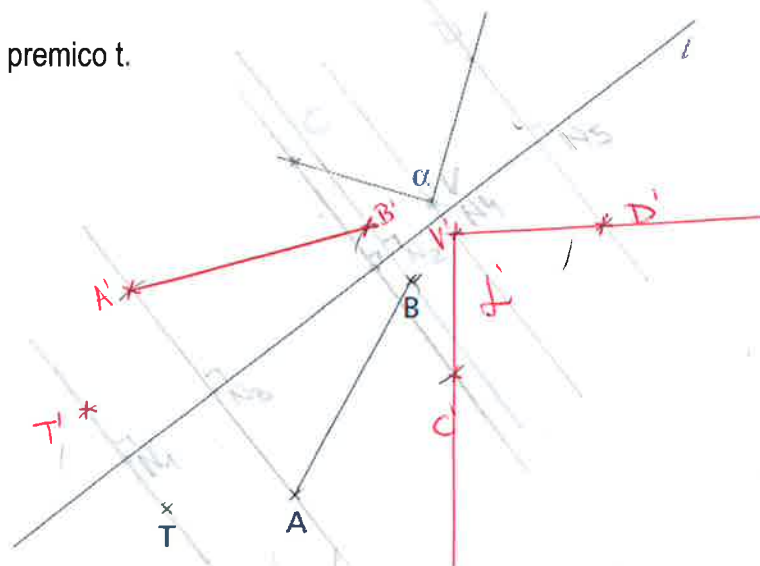
16. Prezrcali točko T, daljico AB in kot α čez premico t .

Zrcaljenja zapiši z matematičnimi znaki:

$$Z_t: T \rightarrow T'$$

$$Z_t: AB \rightarrow A'B'$$

$$Z_t: \angle \rightarrow \angle'$$



17. Sliko dopolni, da bo veljalo:

$$Z_O: AB \rightarrow A'B'$$

$$Z_O: p \rightarrow p'$$

$$Z_O: O \mapsto O' \text{ (megibna točka)}$$

