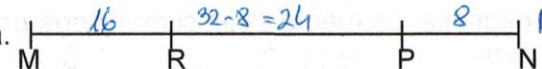


PREVERJANJE ZNANJA 9. r Ime in priimek: _____

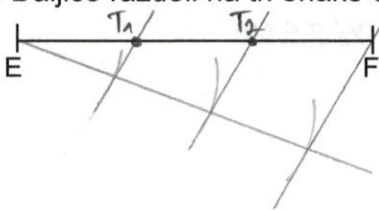
1. Na daljici MN ležita točki P in R tako, kot kaže slika.  Zapiši razmerja, če poznaš IMRI = 16 cm, IPNI = 8 cm in IRNI = 32 cm. Če se da, jih okrajšaj.

- a) $IMRI : IMNI = 16 : 48 = 1 : 3$ b) $IMNI : IPNI = 48 : 8 = 6 : 1$ c) $IMNI : IPRI = 48 : 24 = 2 : 1$
 č) $IPRI : IMRI = 24 : 16 = 3 : 2$ d) $IRNI : IPRI = 32 : 24 = 4 : 3$ e) $IPRI : IPNI = 24 : 8 = 3 : 1$

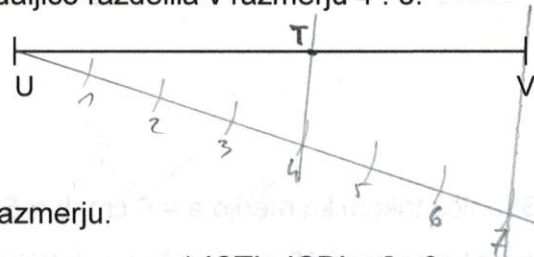
2. V parih podobnih pravokotnikov ABCD in A'B'C'D' izračunaj neznane količine.

- a) $a = 12 \text{ cm}$, $b = 8 \text{ cm}$, $a' = 3 \text{ cm}$, $b' = 2 \text{ cm}$, $o' = 10 \text{ cm}$, $p' = 6 \text{ cm}^2$
 b) $a = 10 \text{ cm}$, $a' = 15 \text{ cm}$, $b' = 6 \text{ cm}$, $b = 4 \text{ cm}$, $o = 28 \text{ cm}$, $p' = 90 \text{ cm}^2$
 c) $a' = 12,5 \text{ cm}$, $b = 6 \text{ cm}$, $b' = 15 \text{ cm}$, $a = 5 \text{ cm}$, $o' = 55 \text{ cm}$, $p = 30 \text{ cm}^2$
 č) $b = 10 \text{ cm}$, $d = 26 \text{ cm}$, $b' = 5 \text{ cm}$, $a = 24 \text{ cm}$, $a' = 12 \text{ cm}$, $d' = 13 \text{ cm}$, $o' = 12 \text{ cm}$

3. Daljico razdeli na tri enake dele.



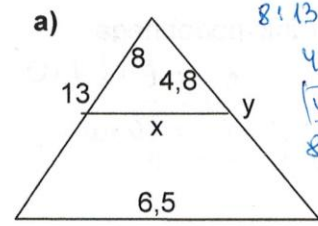
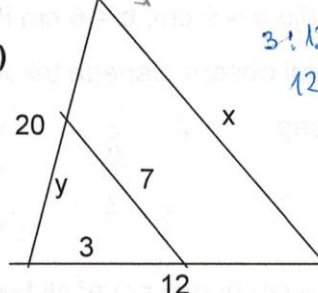
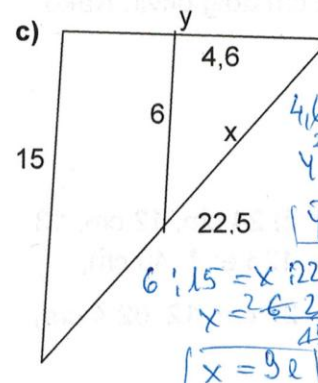
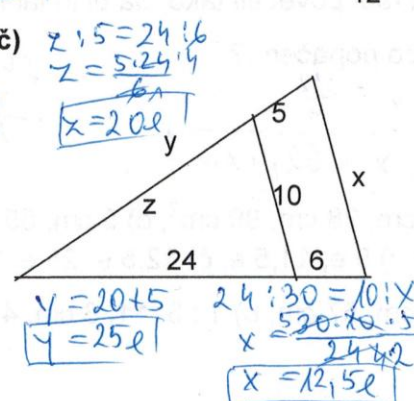
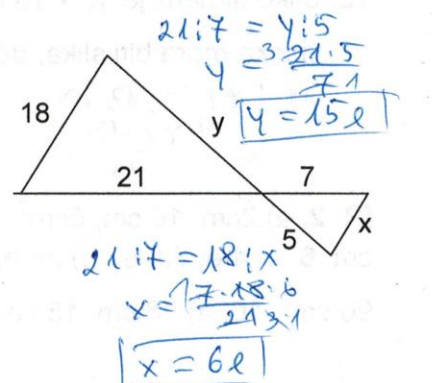
4. Na daljici nariši točko T tako, da bo daljico razdelila v razmerju 4 : 3.



5. Na daljicah poišči točko T tako, da bodo v danem razmerju.

- a) $IMTI : ITNI = 3 : 4$ b) $IABI : IATI = 5 : 3$ c) $ICTI : ICDI = 2 : 3$

6. Izračunaj neznane količine.

- a)  $8 : 13 = 4,8 : y$, $y = 7,8 \text{ el}$
 $8 : 13 = x : 6,5$, $x = 4 \text{ el}$
- b)  $3 : 12 = y : 20$, $y = 5 \text{ el}$
 $3 : 12 = 7 : x$, $x = 28 \text{ el}$
- c)  $4,6 : 15 = 6 : x$, $x = 19,5 \text{ el}$
 $6 : 15 = x : 22,5$, $x = 9 \text{ el}$
- č)  $z : 5 = 24 : 6$, $z = 20 \text{ el}$
 $24 : 30 = 10 : x$, $x = 12,5 \text{ el}$
- d)  $21 : 7 = y : 5$, $y = 15 \text{ el}$
 $21 : 7 = 18 : x$, $x = 6 \text{ el}$

7. Stranice podobnih pravokotnikov so v razmerju 3 : 4. Izračunaj obseg in ploščino večjega pravokotnika, če merita stranici manjšega pravokotnika 9 cm in 6 cm.

$$a = 9 \text{ cm}$$

$$b = 6 \text{ cm}$$

$$3:4$$

$$a : a' = 3 : 4$$

$$a' = \frac{9 \cdot 4}{3}$$

$$a' = 12 \text{ cm}$$

$$b : b' = 3 : 4$$

$$b' = \frac{6 \cdot 4}{3}$$

$$b' = 8 \text{ cm}$$

$$o' = 2 \cdot (a' + b')$$

$$o' = 2 \cdot (12 + 8)$$

$$o' = 40 \text{ cm}$$

$$p' = a' \cdot b'$$

$$p' = 12 \cdot 8$$

$$p' = 96 \text{ cm}^2$$

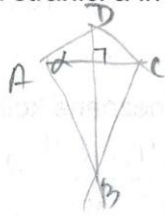
8. Nariši deltoid, če sta stranici a in c v razmerju 5 : 3, kot α meri 110° , stranica a pa 6 cm.

$$a : c = 5 : 3$$

$$6 : c = 5 : 3$$

$$c = \frac{18}{5}$$

$$c = 3,6 \text{ cm}$$



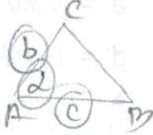
9. Nariši trikotnike, ki so podobni trikotniku ABC z danimi podatki, če poznaš en podatek podobnega trikotnika A'B'C'.

a) $c = 5 \text{ cm}$

$$\alpha = 70^\circ$$

$$b = 3 \text{ cm}$$

$$b' = 4 \text{ cm}$$

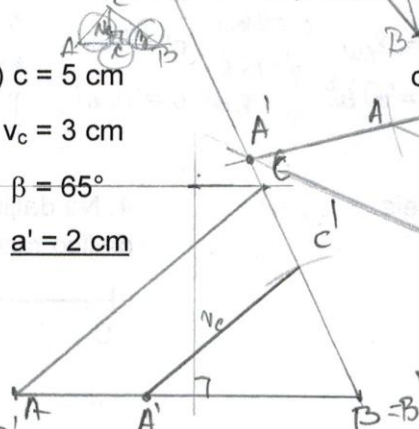


b) $c = 5 \text{ cm}$

$$v_c = 3 \text{ cm}$$

$$\beta = 65^\circ$$

$$a' = 2 \text{ cm}$$

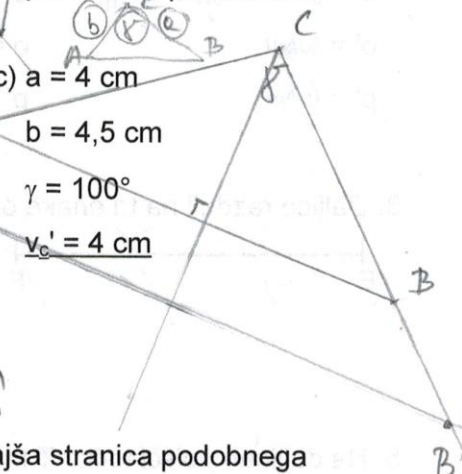


c) $a = 4 \text{ cm}$

$$b = 4,5 \text{ cm}$$

$$\gamma = 100^\circ$$

$$v_c' = 4 \text{ cm}$$



10. Stranice trikotnika merijo $a = 6 \text{ cm}$, $b = 5 \text{ cm}$ in $c = 8 \text{ cm}$. Najkrajša stranica podobnega trikotnika pa meri 15 cm. Izračunaj dolžine stranic podobnega trikotnika in njegov obseg.

Zapiši razmerje obsegov.

$$a = 6 \text{ cm}$$

$$b = 5 \text{ cm}$$

$$c = 8 \text{ cm}$$

$$a' = ?$$

$$b' = ?$$

$$c' = ?$$

$$z = \frac{b'}{b}$$

$$z = \frac{15}{5}$$

$$z = 3$$

$$a' = z \cdot a$$

$$a' = 3 \cdot 6$$

$$a' = 18 \text{ cm}$$

$$c' = z \cdot c$$

$$c' = 3 \cdot 8$$

$$c' = 24 \text{ cm}$$

$$o' = a' + b' + c'$$

$$o' = 18 + 15 + 24$$

$$o' = 57 \text{ cm}$$

$$o : o' = 1 : 3$$

11. Stranice trikotnika merijo $a = 9 \text{ cm}$, $b = 6 \text{ cm}$ in $c = 15 \text{ cm}$. Najdaljša stranica podobnega trikotnika je enaka tretjini obsega danega trikotnika. Izračunaj dolžine stranic podobnega trikotnika in njegov obseg.

$$a = 9 \text{ cm}$$

$$b = 6 \text{ cm}$$

$$c = 15 \text{ cm}$$

$$z = \frac{c'}{c}$$

$$z = \frac{10}{15}$$

$$z = \frac{2}{3}$$

$$a' = z \cdot a$$

$$a' = \frac{2}{3} \cdot 9$$

$$a' = 6 \text{ cm}$$

$$b' = z \cdot b$$

$$b' = \frac{2}{3} \cdot 6$$

$$b' = 4 \text{ cm}$$

$$o' = a' + b' + c'$$

$$o' = 6 + 4 + 10$$

$$o' = 20 \text{ cm}$$

12. Slika dimenzije $15 \times 13 \text{ cm}$ bi radi povečali tako, da bi jo lahko dali v 72 cm dolg okvir. Kako visoka mora biti slika, da ne bo popačena?

$$15 : 72 = 13 : x$$

$$x = \frac{24 \cdot 72 \cdot 13}{15 \cdot 5}$$

$$x = \frac{312}{5}$$

$$x = 62,4 \text{ cm}$$

$$\frac{24 \cdot 13}{72}$$

$$\frac{312}{72}$$

[R: 2. a) 2 cm, 10 cm, 6 cm², b) 4 cm, 28 cm, 90 cm², c) 5 cm, 55 cm, 30 cm² č) 24 cm, 12 cm, 13 cm; 6. a) 4 e, 7,8 e, b) 28 e, 5 e; c) 9 e, 11,5 e, č) 12,5 e, 25 e, 20 e, d) 6 e, 125 e; 7. 40 cm, 96 cm², 10. a) 18 cm, 15 cm, 24 cm, 57 cm, b) 1 : 3; 11. 6 cm, 4 cm, 10 cm, 20 cm; 12. 62,4 cm]