VAJA 2

1.) $\frac{x \cdot 6}{2} - 5 \cdot 6 = \frac{x \cdot 6}{3} - 3 \cdot 6 \;/\cdot 6$

$3x - 30 = 2x - 18$

$3x - 2x = -18 + 30$

$x = 12$

Preizkus:

L: $\frac{12}{2} - 5 = 6 - 5 = 1$

D: $\frac{12}{3} - 3 = 4 - 3 = 1$

2.) $\frac{x-2 \cdot 5}{2} - \frac{x+4 \cdot 2}{5} - 3 \cdot 10 = 0 \;/\cdot 10$

$5(x-2) - 2(x+4) - 30 = 0$

$5x - 10 - 2x - 8 - 30 = 0$

$5x - 2x = 10 + 8 + 30$

$3x = 48 \;/:3$

$x = 16$

3.) $3 \cdot x + 5 = 4 \cdot x - 3$

$3x - 4x = -3 - 5$

$-x = -8 \;/\cdot(-1)$

$x = 8$

Odg: Neznano število je 8.

4.) oče: $x = 36$ let

hči: $\frac{x}{3} = 12$ let

sin: $\frac{x}{4} = 9$ let

$x + \frac{x}{3} + \frac{x}{4} = 57 \;/\cdot 12$

$12x + 4x + 3x = 684$

$19x = 684 \;/:19$

$x = 36$

Odgovor: Oče je star 36 let, hči 12 let in sin 9 let

5.)

Danes	Pred x leti
Mati: 48	$48 - x = 42$
Hči: $48 : 4 = 12$	$12 - x = 6$

$x = 16$

$M = 7 \cdot H$

$48 - x = 7(12 - x)$

$48 - x = 84 - 7x$

$6x = 84 - 48$

$6x = 36$

$x = 6$

O: Pred 6-imi leti je bila mati 7-krat starejša od hčere.

6.)

$5x - 25 - 8x = x - 65$

$5x - 8x - x = -65 + 25$

$-4x = -40 \;/:(-4)$

$x = 10$

O: To število je 10.

PITAGOROV IZREK

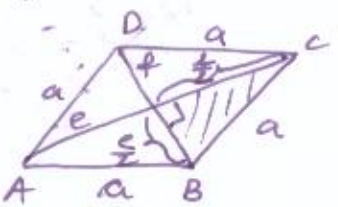
1. KVADRAT

$o = 40\,cm$

$a = o : 4 = 10\,cm$

$d = a\sqrt{2} = 10\sqrt{2}\,cm = 10 \cdot 1{,}41 = 14{,}2\,cm$

2.) ROMB



$e = 30\,cm$

$f = 16\,cm$

$a = 17\,cm$

$o = 4a = 68\,cm$

$a^2 = \left(\frac{e}{2}\right)^2 + \left(\frac{f}{2}\right)^2$

$a^2 = 15^2 + 8^2$

$a^2 = 225 + 64$

$a = \sqrt{289}$

$a = 17\,cm$

3.) 11, 13, 17

l_1 l_2 hipotenuza (najdaljša stranica)

$l_1^2 = l_1^2 + l_2^2$

$l_h^2 = 11^2 + 13^2$

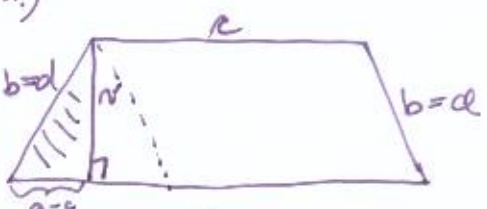
$l_h^2 = 121 + 169$

$l_h^2 = 290 \;/\sqrt{}$

$l_h \doteq 17, \ldots$

Ne, ni Pitagorejska trojica

4.)



$a = 62\,cm$

$c = 32\,m$

$b = 50\,m$

$v =$

$p =$

$v^2 = b^2 - \left(\frac{a-c}{2}\right)^2$

$v^2 = 50^2 - 15^2$

$v^2 = 2500 - 225$

$v = \sqrt{2275}$

$v \doteq 47{,}7\,m$

$p = \frac{(a+c) \cdot v}{2}$

$p = \frac{94 \cdot 47{,}7 \cdot 47}{2}$

$p = 2241{,}9\,m^2$

OSNOVNI GEOMETRIJSKI POJMI

1. A

2. C, D, F

3. A, B, D

4.) a.) a, b: $a \parallel b$

b.) c, d: $c \perp d$

c.) E, e: $E \in e$

d.) A, B: $d(A,B) = 3\,cm$

e.) g, E, f: $f \cap g = \{E\}$

f.) G, g: $G \in g$

PODOBNOST, RAZMERJA, SORAZMERJA

1.) $F : D = 12 : 16 = \underline{3 : 4}$

2.)

$8\,cm \cdot 500 = 4000\,cm = 40\,m$

$10\,cm \cdot 500 = 5000\,cm = 50\,m$

$p = 40 \cdot 50 = \underline{2000\,m^2}$

3.) $a : b = 3 : 2 \qquad o = 70\,cm$

$a = 3t = 21\,cm \qquad 2a + 2b = o$

$b = 2t = 14\,cm \qquad 2 \cdot 3t + 2 \cdot 2t = 70$

$6t + 4t = 70$

$p = 21 \cdot 14 = 294\,cm^2 = 2{,}94\,dm^2 \qquad 10t = 70$

$t = 7$

ODGOVOR: D

4.) $9\,cm : 12\,cm : 15\,cm = 4{,}5 : 6\,cm : 7{,}5\,cm$

$:2$

Ostali stranici merita 6cm in 7,5cm.

5.) $\underline{3 : 4 : 5} = \underline{x : y : 7\,dm}$

$4 : 5 = y : 7 \qquad 3 : 5 = x : 7$

$5y = 28 \;/:5 \qquad 5x = 21$

$\underline{y = 5{,}6\,dm} \qquad \underline{x = 4{,}2\,dm}$

Ostali dve stranici merita 5,6 dm in 4,2 dm

6.) $a : b = 2 : 3 \qquad a + b = 75$

$a = 2t = 30 \qquad 2t + 3t = 75$

$b = 3t = 45 \qquad 5t = 75$

$t = 15$

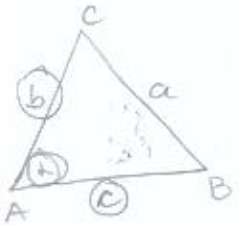
O: Ta števili 30 in 45.

7.) $b = 5\,cm$

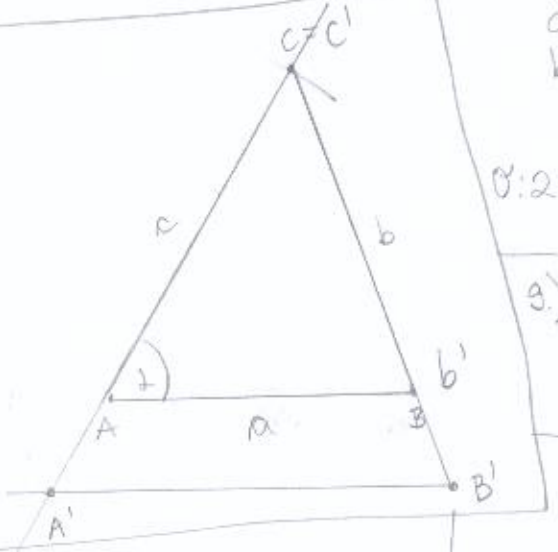
$c = 4\,cm$

$\angle = 60°$

SKICA:



$b' = 6\,cm$



8.) $a : b = 3 : 5 \qquad a + b = 64\,kg$

$a = 3t = 24\,kg \qquad 8t = 64 \;/:8$

$b = 5t = 40\,kg \qquad t = 8\,kg$

O: 24 kg in 40 kg snovi.

9.) $|AB| : |CD| = 12\,cm : 6\,dm =$

$= 12\,cm : 60\,cm = \underline{1 : 5}$

10.) $15\,cm : 450\,km = 15\,cm : 450\,000\,000\,cm =$

$= \underline{1 : 3\,000\,000}$

11.) $6 : 7 : 8 = 2{,}5\,cm : 3{,}5\,cm : 4\,cm$

$2{,}5 : 6 = 25 : 60 = 5 : 12$

$3{,}5 : 7 = 35 : 70 = 1 : 2$

$4 : 8 = 1 : 2$

Trikotnika sta nista podobna, ker istoležne stranice niso v enakem razmerju.