UTRJEVANJE ZNANJA

1. a.) $3a+1a=4a$

b.) $-4b+2a-3b=+2a-7b$

c.) $8x+x^2+3x=x^2+11x$

d.) $2a-(3a^2-4a)+5=$

$=2a-3a^2+4a+5=$

$=-3a^2+6a+5$

e.) $-(7u+3v)+(2+9u)=$

$=-7u-3v+2+9u=$

$=2u-3v+2$

f.) $-(3y-z+1)-(-3y)=$

$=-3y+z-1+3y=$

$=z-1$

2.

a.) $a\cdot a=a^2$

b.) $3x\cdot 4xy=12x^2y$

c.) $-3x^2\cdot 4xy^3=-12x^3y^3$

č.) $x(x-6)=x^2-6x$

d.) $2c(3a-4c)=6ac-8c^2$

e.) $(-a+4b)(-2ab)=$ ...

$=+2a^2b-8ab^2$

f.) $(x-2)(x-1)=$

$=x^2-1x-2x+2=$

$=x^2-3x+2$

g.) $(5y+3x)(2x-5y)=$

$=10xy-25y^2+6x^2-15xy=$

$=-5xy-25y^2+6x^2$

3. a.) $-2\cdot(x-1)-(3x+5)=$ $\quad x=2$

$=-2x+2-3x-5=$

$=-5x-3$

$-5\cdot 2-3=$

$=-10-3=$

$=-13$

b.) $(3x-4)\cdot(x-1)-7x\cdot(x-4)=$ $\quad x=-2$

$=3x^2-3x-4x+4-7x^2+28x=$

$=-4x^2+21x+4$

$-4\cdot(-2)^2+21\cdot(-2)+4=$

c.) $3-(a+5)(a-5)-(a-4)\cdot 3=$

$=3-(a^2-5a+5a-25)-(3a-12)=$

$=3-a^2+5a-5a+25-3a+12=$

$=-a^2-3a+40$

$-\left(\frac{1}{2}\right)^2-3\cdot\frac{1}{2}+40=$

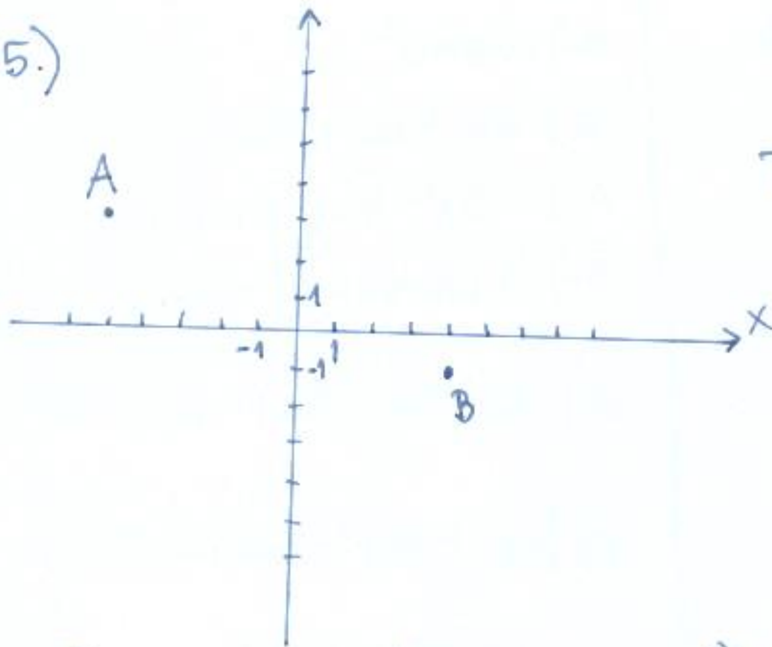
$=-\frac{1}{4}-\frac{3}{2}+40=$ $\quad -1\frac{3}{4}$

4.) a.) $4a+4b=4(a+b)$

b.) $9a^2-3ab+6a^3=3a(3a-b+2a^2)$

c.) $24a^3b^2+12a^2b^2-20ab^3=4ab^2(6a^2+3a-5b)$

5.)



$T(x,y)$

x... abscisa

y... ordinata

6.) a) P.S.

b.) O.S.

c.) NIČ

d.) P.S.

e.) P.S.

7.) a.) N

b.) P

c.) P

d.) P

8.) a.) količnik / $y=k\cdot x$ / premica

b.) produkt / $c=x\cdot y$ / hiperbola

9.a) 8kg ... 12€

xkg ... 9€ P.S.

$x=\frac{\not{3}\cdot\not{8}\cdot 2\cdot 3}{\not{12}\cdot\not{3}}=6\,kg$

O: Za 9€ dobimo 6kg pomaranč.

b.) $k=\frac{12}{8}=\frac{3}{2}=1{,}5$

$x=1{,}5\cdot m$

c.)

Masa[kg]	1	2	3	4	8
Znesek (€)	1,5	3	4,5	6	12

(·1,5; :2; :2)

10.)

1min = 60s ... 100% :20

:20 3s ... x % P.S

$x=5\%$

O: Svoj rezultat je izboljšala za 5%.

11. a)

$\downarrow$: 22 učencev ... 12 € $\downarrow$ · O.S.
16 učencev ... x €

$$x = \frac{22 \cdot 12 \cdot 3 \cdot 11}{16 \cdot 4 \cdot 2}$$

$$x = \frac{33}{2} = 16{,}5\ €$$

O: Vsak mora plačati 16,5 €

b.)

$\downarrow$: 22 učencev ... 12 € $\downarrow$: O.S.
24 učencev ... x €

$$x = \frac{22 \cdot 12 \cdot 1 \cdot 11}{24 \cdot 2}$$

$$x = 11\ €$$

O: Vsak mora plačati 11 €.

c.) Naloga predstavlja obratno sorazmerni količini. Če se število učencev na avtobusu zmanjša, se znesek na posameznega učenca poveča.

12.)

PRITEČE

:5 5 min ... 400 l :5
·20 1 min ... 80 l ·20
20 min .. 1600 l

ODTEČE

:3 3 min ... 60 l :3
·20 1 min ... 20 l ·20
20 min ... 400 l

$$1600\ l - 400\ l = 1200\ l = 1200\ dm^3 = 1{,}2\ m^3$$

$$1{,}2\ m^3 > 1\ m^3$$

Da, po 20 min je v bazenu več kot 1 m^3 vode.

· 20 min ... 1,2 m^3 · P.S.
x min ... 9 m^3

$$x = \frac{20 \cdot 9 \cdot 10}{1{,}2 \cdot 10} = \frac{200 \cdot 9 \cdot 3 \cdot 50}{12 \cdot 4} = 150\ min$$

O: Bazen bo poln v 150 minutah.

13.) pravilni 8-kotnik

a.) $n-3 = 8-3 = 5$ diagonal iz enega oglišča

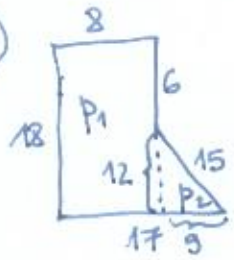
b.) $d_n = \frac{n(n-3)}{2} = \frac{8 \cdot 5 \cdot 4}{2} = 20$ diagonal

c.) $(n-2) \cdot 180° = (8-2) \cdot 180° = 180° \cdot 6 = 1080°$

e) vsota vseh zunanjih kotov: $360°$

f) $\alpha = \frac{360°}{8} = 45°$

14.)



$o = 18+8+6+15+17 = \underline{64\,cm}$

$p = p_1 + p_2 = 144+54 = \underline{198\,cm^2}$

$p_1 = 18 \cdot 8 = 144\,cm^2$

$p_2 = \frac{12 \cdot 9 \cdot 6}{2} = 54\,cm^2$

15.) $d = 1{,}5\,m$

$o = 4{,}71\,m$

$p = 1{,}76625\,m^2$

$r = 0{,}75\,m$

$o = d\pi$

$o = 1{,}5 \cdot 3{,}14$

$o = \underline{4{,}71\,m}$

$p = \pi r^2$

$p = 3{,}14 \cdot 0{,}75^2$

$p = 3{,}14 \cdot 0{,}5625$

$p = 1{,}76625\,m^2$

$0{,}75 \cdot 0{,}75$

525

375

0,5625

$0{,}5625 \cdot 3{,}14$

16875

5625

22500

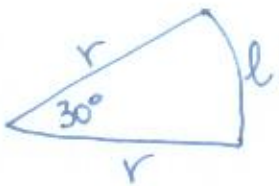
1,766250

16.) $r = 12\,cm$

$\alpha = 30°$

$o = \underline{30{,}28\,cm}$

$p_i = \underline{37{,}68\,cm^2}$



$l = \frac{\alpha \cdot 2\pi r}{360°}$

$l = \frac{30° \cdot 2 \cdot 3{,}14 \cdot 12}{360° \cdot 30}$

$l = 6{,}28\,cm$

$o = 2 \cdot r + l$

$o = 2 \cdot 12 + 6{,}28$

$o = 24 + 6{,}28$

$o = 30{,}28\,cm$

$p_i = \frac{\alpha \cdot \pi r^2}{360°}$

$= \frac{30° \cdot \pi \cdot 144 \cdot 12}{360° \cdot 12}$

$= 12\pi = 12 \cdot 3{,}14 =$

$= 37{,}68\,cm^2$

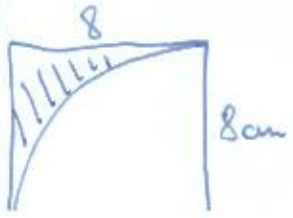
50,24 : 4 = 12,56

10

22

24

17.)



$r = 8\,cm$

$o_k = 2\pi r$

$o_k = 2 \cdot 3{,}14 \cdot 8$

$o_k = 50{,}24\,cm$

$p_k = \pi r^2$

$p_k = 3{,}14 \cdot 64$

$p_k = 200{,}96\,cm^2$

$o = 8 + 8 + \frac{o_k}{4}$

$= 8 + 8 + \frac{50{,}24}{4} =$

$= 16 + 12{,}56 = \underline{28{,}56\,cm}$