PREVERJANJE ZNANJA (Enačbe, sorazmerja)

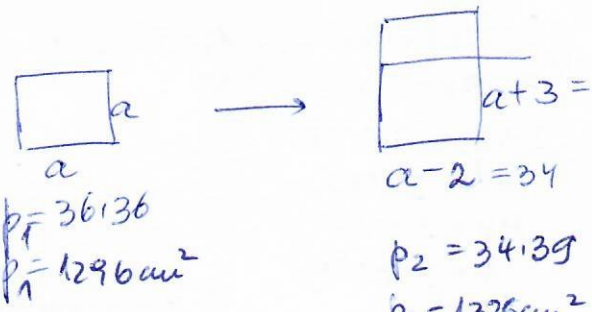
①

	danes	pred 5 leti
Tyla	$3 \cdot x$	$3x-5$
kotja	x	$x-5$

$3x-5 = 5(x-5)$
$3x-5 = 5x-25$
$3x-5x = -25+5$
$-2x = -20$
$\boxed{x = 10}$

Tyla 30 let
kotja 10 let

②



$p_1 = 36 \cdot 36$
$p_1 = 1296\,cm^2$

$p_2 = 34 \cdot 39$
$p_2 = 1326\,cm^2$

$a^2+30 = (a-2)(a+3)$
$a^2+30 = a^2-2a+3a-6$
$a^2+30 = a^2+a-6$
$-a = -36$
$\boxed{a = 36\,cm}$

Stranica kvadrata meri 36 cm, stranici pravokotnika pa 34 cm in 39 cm.

③ $\frac{x}{2} + \frac{x}{4} + \frac{1}{7}x + 3 = x \quad / \cdot 28$

$14x + 7x + 4x + 3 \cdot 28 = 28x$
$25x = 28x - 3 \cdot 28$
$-3x = -3 \cdot 28$
$\boxed{x = 28}$

Vseh učencev je bilo 28.

④

otroci	$x+30$
starši	x
	90

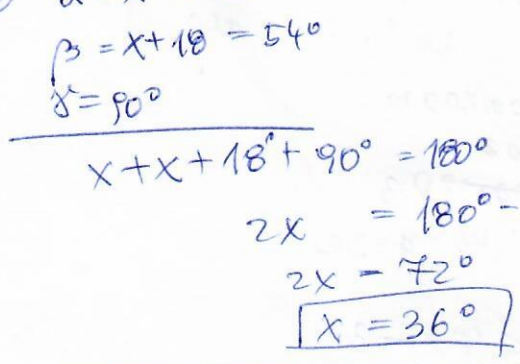
$x+30+x = 90$
$2x = 90-30$
$2x = 60$
$\boxed{x = 30}$

Naselbo je bilo 30 odraslih in 60 otrok.

⑤ $\frac{x+4}{x-2} = \frac{x+3}{x+2}$

$(x+4)(x+2) = (x-2)(x+3)$
$x^2+6x+8 = x^2+x-6$
$6x+x = -6-8$
$5x = -14$
$x = -\frac{14}{5}$
$x = -2\frac{4}{5}$

⑥



$x + x + 18^\circ + 90^\circ = 180^\circ$
$2x = 180^\circ - 108^\circ$
$2x = 72^\circ$
$\boxed{x = 36^\circ}$

⑦ $16 : 20 = \frac{16}{20} = \frac{4}{5}$

$\frac{3}{4} : \frac{1}{2} = \frac{3 : \frac{1}{2}}{4 : 1,2} = 3 : 2$

$0,7 : 0,14 = \frac{7 : 100 : 10}{10 \cdot 14 : 2} = 5 : 1$

⑧ $a : 4 = 5 : 2$

$2a = 20$

$\boxed{a = 10}$

$\frac{5}{x} = \frac{3}{6}$

$3x = 5 \cdot 6$

$3x = 30$

$\boxed{x = 10}$

$16 : (x+2) = 3 : (x-2)$

$3 \cdot (x+2) = 16(x-2)$

$3x + 6 = 16x - 32$

$3x - 16x = -32 - 6$

$-13x = -38$

$x = \frac{38}{13} = 2\frac{12}{13}$

⑨ $z : m = 1 : 15000$

$25 : m = 1 : 15000$

$m = 15000 \cdot 25$

$m = 375000$ cm =

= 3750 m =

= 3,75 km

Razdalja med krajema meri 3,75 km.

⑩ ↓ 3 črpalke … 120 min ↑

4 črpalke … x

$3 : 4 = x : 120$

$4x = 3 \cdot 120$

$4x = 360$

$x = 360 : 4$

$\boxed{x = 90}$

V 90 minutah.

⑪ $p = \frac{\pi \cdot r^2 \cdot \alpha}{360°}$

$\alpha = ?$

$\frac{\pi r^2 \alpha}{360°} = p$

$\pi \cdot r^2 \cdot \alpha = 360° \cdot p$

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

⑫ $\frac{1}{2} - \frac{1-x}{2} = 3 - \frac{2(3-x)}{3} - \frac{x}{2} \quad / \cdot 6$

$3 - 3(1-x) = 18 - 4(3-x) - 3x$

$3 - 3 + 3x = 18 - 12 + 4x - 3x$

$3x = 6 + x$

$3x - x = 6$

$2x = 6$

$\boxed{x = 3}$

⑬ ↓ 40 € …. 100 % ↓

x …. 20 %

$40 : x = 100 : 20$

$100 \cdot x = 40 \cdot 20$

$x = 800 : 100$

$x = 8 \quad 40 - 8 = 32$

ali

↓ 40 € … 100 % ↓

x … 80 %

$40 : x = 100 : 80$

$100x = 40 \cdot 80$

$100x = 3200$

$\boxed{x = 32}$

V predprodaji stanejo 32 €.

⑭ $5x + 6 < 7x - 8$

$5x - 7x < -8 - 6$

$-2x < -14 \quad / : (-2)$

$\boxed{x > 7}$

⑮ $x + y = 5 \Rightarrow x = 5 - y$

$x - 2y = 2$

$5 - y - 2y = 2$

$5 - 3y = 2$

$-3y = 2 - 5$

$-3y = -3$

$\boxed{y = 1}$

$x = 5 - 1$

$\boxed{x = 4}$

⑯ $5y - 4x = 4$

$2x - 7y + 11 = 0 \quad / \cdot 2$

$-4x + 5y = 4$

$2x - 7y + 11 = 0 \quad / \cdot 2$

$-4x + 5y = 4$

$4x - 14y + 22 = 0$

$-9y + 22 = 4$

$-9y = 4 - 22$

$-9y = -18$

$\boxed{y = 2}$

$2x - 7 \cdot 2 + 11 = 0$

$2x - 14 + 11 = 0$

$2x - 3 = 0$

$2x = 3$

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

$\boxed{x = 1\frac{1}{2}}$