

Reseni - PZ - 9. trieda - 22.4. 2016

1)  $30\% + 45\% = 45\%$   
 $100\% - 45\% = 25\%$  - stone Bludicka }  $25\% \text{ z } 500 \text{ je } 0,25 \cdot 500 = \boxed{125} \Rightarrow \textcircled{C}$

2)  $x + y = 85 \quad | \cdot (-5)$   
 $5x + 10y = 600$   
 $\hline$   
 $-5x - 5y = -425$   
 $5x + 10y = 600$   
 $\hline$   
 $5y = 175$   
 $y = 35 \dots \text{ deti}$   $\Rightarrow \textcircled{B}$   
 $x = 50 \dots \text{ deti}$

3)  $\frac{5000}{100} \cdot a + \frac{4000}{100} \cdot b = \boxed{50a + 40b} \Rightarrow \textcircled{D}$

4)  $3,6 \cdot 10^8 = 36 \cdot 10^7 = \boxed{360000000} \Rightarrow \textcircled{C}$

5)  $\textcircled{A} \rightarrow$  kolmé, píli so, rovné dĺžhé

6)  $3^2 - \sqrt{16} \left(2 - \frac{3}{2}\right) + \frac{1}{4} \cdot 8^2 = 9 - 4 \cdot \frac{1}{2} + \frac{64}{4} = 9 - 2 + 16 = \boxed{23} \Rightarrow \textcircled{B}$

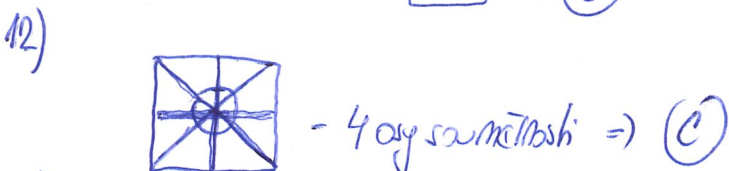
7)  $1 \text{ cm} \dots 200 \text{ cm}$  ve skúročehi =  $\boxed{2 \text{ m}}$   $\Rightarrow$   $\left. \begin{array}{l} 8 \text{ m} \dots 4 \text{ cm} \\ 7 \text{ m} \dots 3,5 \text{ cm} \end{array} \right\} \boxed{4 \times 3,5} = \textcircled{A}$

8)  $\frac{4x^2 - y^2}{2x - y} = \frac{(2x - y)(2x + y)}{(2x - y)} = \boxed{2x + y} \Rightarrow \textcircled{A}$

9)  $\left. \begin{array}{l} 1990 \dots 11000 \text{ ks} \\ 1910 \dots 1000 \text{ ks} \end{array} \right\} 11000 : 1000 = \textcircled{11x} \Rightarrow \textcircled{B}$

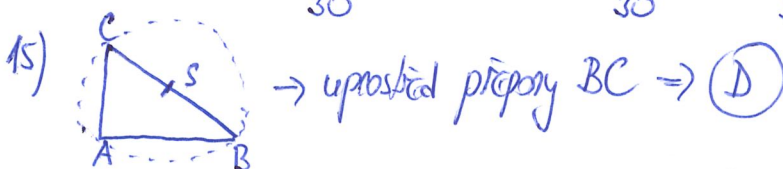
10)  $2 + (3^3 - 4^2)^2 = 2 + (27 - 16)^2 = 2 + 11^2 = 2 + 121 = \boxed{123} \Rightarrow \textcircled{C}$

11)  $((x^3)^3)^2 = (x^9)^2 = \boxed{x^{18}} \Rightarrow \textcircled{C}$



13)  $5(a - b^2)^2 + 21 \cdot (a^2 - b) = 5(3 - 2^2)^2 + 21 \cdot (3^2 - 2) = 5 \cdot (-1)^2 + 21 \cdot 7 = 5 + 3 = \boxed{8} \Rightarrow \textcircled{B}$

14)  $\bar{x} = \frac{8 \cdot 1 + 12 \cdot 2 + 6 \cdot 3 + 4 \cdot 4}{30} = \frac{8 + 24 + 18 + 16}{30} = \frac{66}{30} = \frac{22}{10} = \boxed{2,2} \Rightarrow \textcircled{B}$



16)  $3 \rightarrow 5802; 5832; 5862; 5892$   
 $4 \rightarrow 5812; 5832; 5852; 5872; 5892 \Rightarrow \boxed{3; 9} \Rightarrow \textcircled{C}$

17)  $S_1 = \pi \cdot 1^2 = \pi$   
 $S_2 = \pi \cdot 3^2 = 9\pi$  }  $\frac{S_2}{S_1} = \frac{9\pi}{\pi} = 9x \Rightarrow \textcircled{D}$

18)  $2(x - \frac{1}{3}) = \frac{2}{3}(-3 + 2x)$   
 $2x - \frac{2}{3} = -\frac{6}{3} + \frac{4x}{3} \quad | \cdot 3$   
 $6x - 2 = -6 + 4x$   
 $2x = -4$   
 $\boxed{x = -2} \Rightarrow \textcircled{B}$

19)  $\uparrow 1800 \dots 360^\circ \uparrow$   
 $\uparrow 800 \dots x^\circ \uparrow$

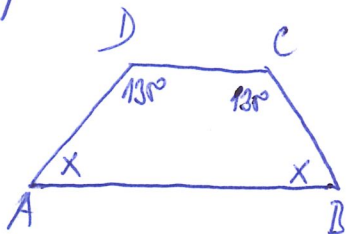
$x = \frac{800 \cdot 360}{1800} = \frac{8 \cdot 360}{18} = \boxed{160^\circ} \Rightarrow \textcircled{D}$



20)  $\frac{2a}{4b} = \frac{?}{5ab^2} \quad | \cdot 5ab^2 \Rightarrow ? = \frac{2a \cdot 5ab^2}{4b} = \frac{10a^2b^2}{4b} = \boxed{\frac{10}{4}a^2b} \Rightarrow \textcircled{D}$

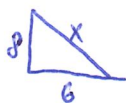
21)  $3(2ab - b^2) - 2(a^2 + 3ab) = 6ab - 3b^2 - 2a^2 - 6ab = \boxed{-2a^2 - 3b^2} \Rightarrow \textcircled{C}$

22)



$|\angle CDA| = \boxed{135^\circ} \Rightarrow \textcircled{D}$

23) Podstawa:  $x^2 = 6^2 + 8^2 = 100$



$\boxed{x = 10 \text{ cm}}$

$S = 2Sp + Sp/2$

$S = \left[ \frac{1}{2} \cdot 6 \cdot 8 + (6+8+10) \cdot 10 \right] \text{ cm}^2$

$S = (48 + 240) \text{ cm}^2 = \boxed{288 \text{ cm}^2} \Rightarrow \textcircled{B}$

24)  $\alpha = 3\beta = 3 \cdot 37^\circ 45' = 111^\circ 135' = \boxed{113^\circ 15'} \Rightarrow \textcircled{C}$

25)  $(2x-3y)(8x+4y) : 4 + 4y^2 = \frac{(2x-3y)(8x+4y)}{4} + 4y^2 = \frac{16x^2 + 8xy - 24xy - 12y^2}{4} + 4y^2 =$   
 $= \frac{16x^2 - 16xy + 12y^2}{4} + 4y^2 = 4x^2 - 4xy + 3y^2 + 4y^2 = 4x^2 - 4xy + 7y^2 =$   
 $= \boxed{(2x-y)^2} \Rightarrow \textcircled{A}$

$$26) \quad \frac{x}{2} + \frac{x}{0,5} = 1 \quad | \cdot 2$$

$$x + 4x = 2$$

$$5x = 2$$

$$x = \frac{2}{5} \text{ hodiny} = 24 \text{ minut} \Rightarrow \textcircled{B}$$

$$27) \quad x^2 = 1,3^2 - 1,2^2 = 1,69 - 1,44 = 0,25$$

$$x = \sqrt{0,25} = 0,5 \text{ m} \Rightarrow \textcircled{A}$$

$$28) \quad \Delta = \Delta_1 + \Delta_2$$

$$\Delta = \pi r_1 t_1 + \pi r_2 t_2 \quad | (t_2 = t_1 - 1)$$

$$\Delta = \pi r_1 t_1 + \pi r_2 (t_1 - 1)$$

$$130 = 40 t_1 + 50 (t_1 - 1)$$

$$130 = 40 t_1 + 50 t_1 - 50$$

$$180 = 90 t_1$$

$$t_1 = \frac{180}{90} = 2 \text{ h} \Rightarrow \textcircled{B}$$

$$29) \quad \begin{array}{l} \text{---} \# \text{ n} \\ \text{---} \# \text{ q} \end{array} \left. \begin{array}{l} \text{---} \text{osa p\u0159\u00edsu} \\ \end{array} \right\} \Rightarrow \textcircled{A}$$

\*  $\rightarrow$  N\u00e1vic

$$30) \quad 3x - 5 \leq 5x + 1 \quad | -3x$$

$$-5 \leq 2x + 1 \quad | -1$$

$$-6 \leq 2x \quad | :2$$

$$x \geq -3 \Rightarrow \textcircled{A}$$