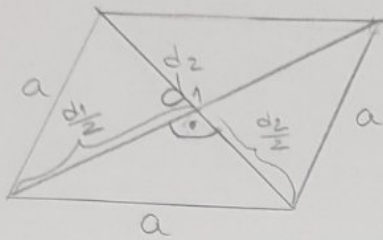


7. [331] 8) Опреди групу квадратног ромба, површину и висину ако је $d_1 = 14 \text{ cm}$, $O = 100 \text{ cm}$.



$$O = 4a = 100 \text{ cm}$$

$$\boxed{a = 25 \text{ cm}}$$

$$a^2 = \left(\frac{d_1}{2}\right)^2 + \left(\frac{d_2}{2}\right)^2$$

$$\left(\frac{d_2}{2}\right)^2 = a^2 - \left(\frac{d_1}{2}\right)^2$$

$$\left(\frac{d_2}{2}\right)^2 = 25^2 - \left(\frac{14}{2}\right)^2$$

$$\left(\frac{d_2}{2}\right)^2 = 625 - 49$$

$$\left(\frac{d_2}{2}\right)^2 = 576$$

$$\frac{d_2}{2} = 24$$

$$\boxed{d_2 = 48 \text{ cm}}$$

24

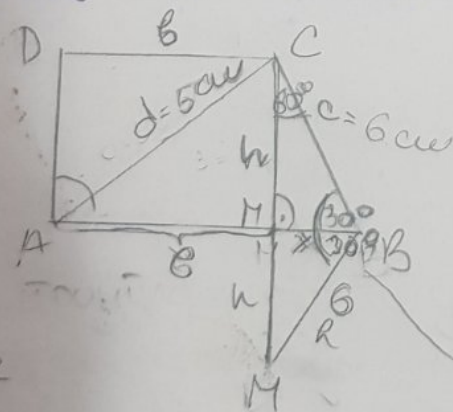
$$P = \frac{d_1 \cdot d_2}{2} = \frac{14 \cdot 48}{2} = \underline{\underline{336 \text{ cm}^2}}$$

$$P = a \cdot h = 336 \text{ cm}^2$$

$$h = \frac{336 \text{ cm}^2}{25 \text{ cm}} = \underline{\underline{13,44 \text{ cm}}}$$

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2. Опреди одим и површину трапезоидне трапеза ABCD са правим углом $\angle BAD$ ако је дијагонала $AC = 5 \text{ cm}$, крак $c = 6 \text{ cm}$ и $\angle ABC = 30^\circ$



$$P = \frac{(a+b)h}{2}$$

$$2h = 6 \text{ cm}$$

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

ΔCBM једнакостранични
→ добућени смо до 60°

$$y = 6^2 - 3^2$$

$$y = 36 - 9$$

$$\boxed{y = 27 = 353 \text{ cm}}$$

$$d^2 = h^2 + b^2$$

$$b^2 = d^2 - h^2$$

$$b^2 = 25 - 9$$

$$b^2 = 16$$

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

$$\boxed{a=b+x = 4+3\sqrt{3} \text{ cm}}$$

$$P = \frac{(a+b) \cdot h}{2} = \frac{(4+4+3\sqrt{3}) \cdot 3}{2} = \frac{24+9\sqrt{3}}{2} = \frac{(12+\frac{9}{2}\sqrt{3}) \text{ cm}^2}{2}$$

$$O = a+b+c+h = 4+4+3\sqrt{3}+6+3 = \underline{(17+3\sqrt{3}) \text{ cm}}$$

3) 3)

$$\text{a) } \boxed{423.6}$$

$$\begin{aligned} (-2)^{10} + (-4)^5 &= 2^{10} - 4^5 = 2^{10} - (2^2)^5 \\ &= 2^{10} - 2^{2 \cdot 5} = 2^{10} - 2^{10} = 0 \end{aligned}$$

$$\text{b) } \boxed{456.6}$$

$$\begin{aligned} \frac{8^2 \cdot 2^4}{2^2} &= \frac{(2^3)^2 \cdot 2^4}{2^2} = \frac{2^{3 \cdot 2} \cdot 2^4}{2^2} = \frac{2^6 \cdot 2^4}{2^2} = \frac{2^{6+4}}{2^2} = \frac{2^{10}}{2^2} = 2^{10-2} \\ &= 2^8 = 256 \end{aligned}$$

4)

$$\text{a) } \boxed{461.9}$$

$$\begin{aligned} \frac{((-x)^3)^4 \cdot (x^{19} \cdot x^{15})^2}{(x^7 \cdot (-x)^2)^2} &= \frac{(-x)^{3 \cdot 4} \cdot (x^{19+15})^2}{(x^7 \cdot x^2)^2} = \frac{(-x)^{12} \cdot (x^{34})^2}{(x^9)^2} = \frac{x^{12} \cdot (x^4)^2}{(x^9)^2} \\ &= \frac{x^{12} \cdot x^{4 \cdot 2}}{(x^9)^2} = \frac{x^{12} \cdot x^8}{x^{9 \cdot 2}} = \frac{x^{12+8}}{x^{18}} = \frac{x^{20}}{x^{18}} = x^{20-18} = x^2 \end{aligned}$$

$$\text{b) } \boxed{469.3} \quad \left(\frac{1}{8}\right)^5 \cdot 16^5 = \left(\frac{1}{8} \cdot 16\right)^5 = 2^5 = 32$$