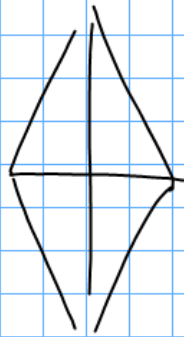


1. Un rombo ha diagonale minore è $\frac{8}{15}$ di quella maggiore e la loro somma è 46 cm.
Trova l'area.
trova il perimetro di un quadrato equivalente.



$$2p = 68 \text{ cm}$$

$$d = \frac{8}{15} D$$

$$d + D = 46 \text{ cm}$$

$$\frac{8}{15} + \frac{15}{15} = \frac{23}{15} \text{ TOT. PARTI}$$

$$46 : 23 = 2 \text{ cm U.F.}$$

$$d = 8 \cdot 2 = 16 \text{ cm}$$

$$D = 15 \cdot 2 = 30 \text{ cm}$$

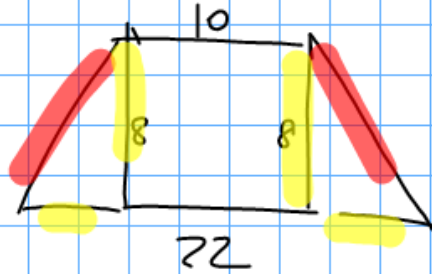
$$p = \sqrt{\left(\frac{D}{2}\right)^2 + \left(\frac{d}{2}\right)^2} = \sqrt{15^2 + 8^2} = 17 \text{ cm}$$

$$A = \frac{D \cdot d}{2} = \frac{30 \cdot 16}{2} = 240 \text{ cm}^2$$

$$p_q = \sqrt{A} = \sqrt{240} \approx 15,5 \text{ cm}$$

$$2p_q = 4p = 4 \cdot 15,5 = 62 \text{ cm}$$

2 Un trapezio isoscele ha la base minore di 10 cm, la base maggiore è $\frac{11}{5}$ di quella minore e l'altezza è $\frac{4}{5}$ della base minore. Calcola perimetro e area.



$$b = 10 \text{ cm}$$

$$B = \frac{11}{5} b$$

$$h = \frac{4}{5} b$$

$$B = \frac{11}{5} b = \frac{11}{5} \cdot 10 = 22 \text{ cm}$$

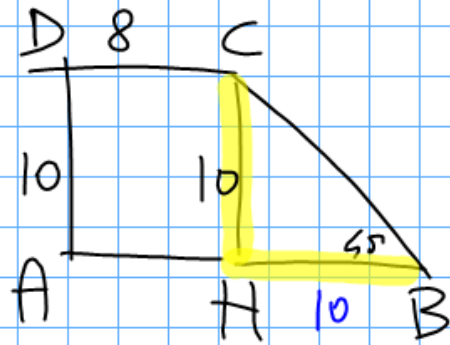
$$h = \frac{4}{5} b = \frac{4}{5} \cdot 10 = 8 \text{ cm}$$

$$l = \sqrt{h^2 + \left(\frac{B-b}{2}\right)^2} = \sqrt{8^2 + \left(\frac{22-10}{2}\right)^2} = \sqrt{8^2 + 6^2} = \sqrt{4 \cdot 2 + 3 \cdot 2 \cdot 5 \cdot 2} = 10 \text{ cm}$$

$$A = \frac{(B+b) \cdot h}{2} = \frac{(22+10) \cdot 8}{2} = 128 \text{ cm}^2$$

$$2p = B + b + l + l = 22 + 10 + 10 + 10 = 52 \text{ cm}$$

3 Un trapezio rettangolo ha l'angolo acuto di 45° . La base minore misura cm 8 e l'altezza cm 10. Calcola perimetro e area approssimando al centesimo.



$$b = \overline{DC} = 8 \text{ cm}$$

$$h = \overline{CH} = 10 \text{ cm}$$

$$\hat{B} = 45^\circ$$

$$\overline{CH} = \overline{HB} = 10 \text{ cm}$$

$$B = \overline{AB} = 10 + 8 = 18 \text{ cm}$$

$$l = \overline{BC} = HB \times 1,41 = 10 \times 1,41 = 14,1 \text{ cm}$$

$$A = \frac{(B+b) \cdot h}{2} = \frac{(18+8) \cdot 10}{2} = \frac{26 \cdot 10}{2} = 130 \text{ cm}^2$$

$$2p = B + b + h + l = 18 + 8 + 10 + 14,1 = 50,1 \text{ cm}$$

$$5) \sqrt{\left[\frac{13}{4} - \left(\frac{11}{20} - \frac{7}{40}\right) \cdot 3\right] \times \frac{1}{2}} - \sqrt{\frac{7}{4} - \frac{1}{2} \times \frac{3}{8}}$$

$$= \sqrt{\left[\frac{13}{4} - \frac{22-7}{40} \times \frac{1}{3}\right] \times \frac{1}{2}} - \sqrt{\frac{7}{4} - \frac{3}{16}} =$$

$$= \sqrt{\left[\frac{13}{4} - \frac{15}{40} \times \frac{1}{3}\right] \times \frac{1}{2}} - \sqrt{\frac{28-3}{16}} =$$

$$= \sqrt{\left[\frac{13}{4} - \frac{1}{8}\right] \times \frac{1}{2}} - \sqrt{\frac{25}{16}} =$$

$$= \sqrt{\frac{26-1}{8} \times \frac{1}{2}} - \frac{5}{4} =$$

$$= \sqrt{\frac{25}{8} \times \frac{1}{2}} - \frac{5}{4} =$$

$$= \sqrt{\frac{25}{16}} - \frac{5}{4} = \frac{5}{4} - \frac{5}{4} = 0$$

$$6) \sqrt{11 - \frac{39}{16} \times \frac{4}{3} + 2} + \sqrt{\left(2 + \frac{28}{9} \times \frac{3}{4} - \frac{5}{8}\right) : \frac{1}{6}}$$

$$= \sqrt{11 - \frac{3}{4} + 2} + \sqrt{\left(2 + \frac{2}{3} - \frac{5}{8}\right) \cdot 6} =$$

$$= \sqrt{\frac{44 - 3 + 8}{4}} + \sqrt{\frac{48 + 16 - 15}{24}} =$$

$$= \sqrt{\frac{49}{4}} + \sqrt{\frac{49}{24} \cdot 6} = \frac{7}{2} + \frac{7}{2} = \frac{14}{2} = 7$$

$$7) \sqrt{2 - \left(\frac{1}{5} + \frac{4}{25}\right) \times \frac{1}{3} - \frac{11}{25}} - \sqrt{\frac{4}{5} - \frac{3}{10} - \frac{5}{2} - \frac{1}{25}}$$

$$= \sqrt{2 - \frac{5+4}{25} \times \frac{1}{3} - \frac{11}{25}} - \sqrt{\frac{4}{5} - \frac{3}{10} - \frac{5}{2} - \frac{1}{25}}$$

$$= \sqrt{2 - \frac{9}{25} \times \frac{1}{3} - \frac{11}{25}} - \sqrt{\frac{4}{5} - \frac{3}{10} - \frac{1}{25}} =$$

$$= \sqrt{2 - \frac{3}{25} - \frac{11}{25}} - \sqrt{\frac{20-3-1}{25}} =$$

$$= \sqrt{\frac{50-3-11}{25}} - \sqrt{\frac{16}{25}} = \sqrt{\frac{36}{25}} - \frac{4}{5} = \frac{6}{5} - \frac{4}{5} = \frac{2}{5}$$