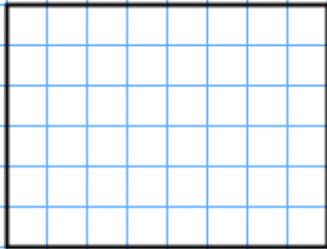


Un rettangolo ha la base di 32 cm e l'altezza è $\frac{3}{4}$ della base.
Calcola area, perimetro e diagonale.



$$b = 32 \text{ cm}$$

$$h = \frac{3}{4} b$$

$$A = ? \quad 2p = ? \quad d = ?$$

$$h = \frac{3}{4} b = (32 : 4) \times 3 = 24 \text{ cm}$$

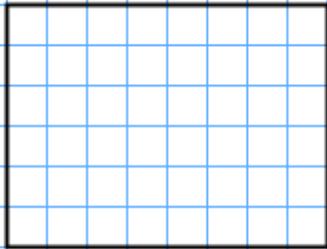
$$A = b \times h = 32 \times 24 = 768 \text{ cm}^2$$

$$2p = (b + h) \times 2 = (32 + 24) \times 2 = 56 \times 2 = 112 \text{ cm}$$

$$d = \sqrt{b^2 + h^2} = \sqrt{32^2 + 24^2} = \sqrt{1024 + 576} = \sqrt{1600} = 40 \text{ cm}$$

4×8
 3×8
 5×8

Un rettangolo ha la diagonale di 51 cm e l'altezza è $\frac{8}{17}$ della diagonale.
Calcola area e perimetro.



$$d = 51 \text{ cm}$$

$$h = \frac{8}{17} d$$

$$A = ? \quad 2p = ?$$

$$h = \frac{8}{17} d = \frac{(51 : 3) \times 8}{17 \times 3} = 24 \text{ cm}$$

$$b = \sqrt{d^2 - h^2} = \sqrt{51^2 - 24^2} = \sqrt{\frac{2601}{17 \times 3} - \frac{576}{8 \times 3}} = \sqrt{\frac{2025}{15 \times 3}} = 45 \text{ cm}$$

$$A = b \times h = 45 \times 24 = 1.080 \text{ cm}^2$$

$$2p = (b + h) \times 2 = (45 + 24) \times 2 = 69 \times 2 = 138 \text{ cm}$$

Un rettangolo ha la diagonale pari a $\frac{5}{4}$ della base e la loro somma misura cm 45.
Calcola area e perimetro.



DATI

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

$$d + b = 45 \text{ cm}$$

$$\frac{5}{4} + \frac{4}{4} = \frac{9}{4} = 45 \text{ cm}$$

$$45 : \frac{9}{4} = 5 \text{ U.F.}$$

$$d = 5 \times 5 = 25 \text{ cm}$$

$$b = 5 \times 4 = 20 \text{ cm}$$

$$h = \sqrt{d^2 - b^2} = \sqrt{25^2 - 20^2} = 15 \text{ cm}$$

$5 \times 5 \quad 4 \times 5 \quad 3 \times 3$

$$A = b \times h = 20 \times 15 = 300 \text{ cm}^2$$

$$p = (b + h) \times 2 = (20 + 15) \times 2 = 35 \times 2 = 70 \text{ cm}$$

$$\begin{aligned}
 & \sqrt{\left(\frac{5}{3} \cdot \frac{1}{3} + \frac{1}{2} + \frac{5}{18}\right) : \frac{1}{3}} - \sqrt{\frac{8}{9} \times \left[\frac{1}{3} : \left(1 - \frac{1}{9}\right) - \frac{1}{4}\right]} = \\
 & = \sqrt{\left(\frac{5}{9} + \frac{1}{2} + \frac{5}{18}\right) : \frac{1}{3}} - \sqrt{\frac{8}{9} \times \left[\frac{1}{3} \times \frac{9}{8} - \frac{1}{4}\right]} = \\
 & = \sqrt{\frac{10+9+5}{18} \times \frac{3}{1}} - \sqrt{\frac{8}{9} \times \left[\frac{3}{8} - \frac{1}{4}\right]} = \\
 & = \sqrt{\frac{25 \times 3}{18 \times 1}} - \sqrt{\frac{8 \times 1}{9} \times \frac{3-2}{8}} = \\
 & = \sqrt{4} - \sqrt{\frac{1}{9}} = 2 - \frac{1}{3} = \frac{5}{3}
 \end{aligned}$$

$$\sqrt{\frac{4}{9} \times \left(\frac{5}{14} - \frac{1}{20} \times \frac{8}{7} \right) + \frac{6}{7}}$$

$$\sqrt{\frac{4}{9} \times \left(\frac{5 \times 2}{14} - \frac{1 \times 8}{28} \right) + \frac{6}{7}} =$$

$$\sqrt{\frac{4}{9} \times \frac{10-8}{28} + \frac{6}{7}} =$$

$$\sqrt{\frac{4}{9} \times \frac{2}{28} + \frac{6}{7}} = \sqrt{\frac{1}{7} + \frac{6}{7}} = \sqrt{\frac{7}{7}} = 1$$

$$\sqrt{3^5} + \frac{6}{\sqrt{3}} + \sqrt{12} + \frac{\sqrt{24}^3}{\sqrt{8}^1}$$

$$= 3^2\sqrt{3} + \frac{2}{\cancel{3}}\sqrt{3} + \sqrt{3 \cdot 4} + \sqrt{3}$$

$$= 9\sqrt{3} + 2\sqrt{3} + 2\sqrt{3} + \sqrt{3} = 14\sqrt{3}$$

$$\sqrt{\left(\frac{3}{4} + \frac{2}{3}\right) \cdot \frac{25}{12} - \frac{1}{25}} + \sqrt{\left(\frac{3}{8} + \frac{1}{4} - \frac{1}{2}\right) \cdot \frac{9}{8}} =$$

$$= \sqrt{\frac{9+8}{12} \cdot \frac{12}{25} - \frac{1}{25}} + \sqrt{\frac{3+2-4}{8} \cdot \frac{9}{8}} =$$

$$= \sqrt{\frac{17}{12} \cdot \frac{12}{25} - \frac{1}{25}} + \sqrt{\frac{1}{8} \cdot \frac{9}{8}} =$$

$$= \sqrt{\frac{17}{25} - \frac{1}{25}} + \sqrt{\frac{1}{9}} = \sqrt{\frac{16}{25}} + \sqrt{\frac{1}{9}} = \frac{4}{5} + \frac{1}{3} = \frac{12+5}{15} = \frac{17}{15}$$