

$$192 \sqrt{9 \times \left( \frac{2}{5} - \frac{3}{20} \right)}$$

$$\sqrt{9 \times \frac{8-3}{20} =}$$

$$\sqrt{9 \times \frac{5}{20} =}$$

$$\sqrt{\frac{9}{4}} = \frac{3}{2}$$

$$193 \sqrt{\left( \frac{3}{4} - \frac{2}{3} \right) \times \left( \frac{3}{4} - \frac{2}{3} \right)}$$

$$\sqrt{\frac{9-8}{12} \times \frac{9-8}{12} =}$$

$$\sqrt{\frac{1}{12} \times \frac{1}{12} =}$$

$$\sqrt{\frac{1}{144}} = \frac{1}{12}$$

$$194 \quad \sqrt{\frac{12}{49} : \left( \frac{14}{15} + \frac{2}{5} \right)}$$

$$\sqrt{\frac{12}{49} : \left( \frac{14+6}{15} \right)}$$

$$\sqrt{\frac{3 \times 2}{49} \times \frac{15}{204}}$$

$$\sqrt{\frac{9}{49}} = \frac{3}{7}$$

$$195 \quad \sqrt{\left( \frac{3}{5} - \frac{5}{9} \right) \times \left( \frac{1}{2} + \frac{2}{5} \right)}$$

$$= \sqrt{\frac{27-25}{45} \times \frac{5+4}{10}} =$$

$$= \sqrt{\frac{2}{45} \times \frac{9}{10}} = \sqrt{\frac{2}{25}} = \frac{1}{5}$$

257  $\left(\frac{1}{5} - \frac{\sqrt{81}}{25} \times \frac{\sqrt{25}}{18}\right)^2 : \left(1 + \frac{1}{2}\right)^2 \times \frac{25}{\sqrt{36}} + 3^2 \times \frac{1}{3^4}$

$$\left(\frac{1}{5} - \frac{\overset{1}{\cancel{9}}}{\overset{5}{\cancel{25}}} \times \frac{\overset{1}{\cancel{5}}}{\overset{2}{\cancel{18}}}\right)^2 : \left(\frac{3}{2}\right)^2 \times \frac{25}{6} + \overset{1}{\cancel{9}} \times \frac{1}{\cancel{9}} =$$

$$\left(\frac{1}{5} - \frac{1}{10}\right)^2 : \frac{9}{4} \times \frac{25}{6} + \frac{1}{9} =$$

$$\left(\frac{1}{10}\right)^2 : \frac{9}{4} \times \frac{25}{6} + \frac{1}{9} =$$

$$\frac{1}{100} \times \frac{1}{9} \times \frac{25}{6} + \frac{1}{9} = \frac{1^{x1}}{54} + \frac{1^{x6}}{9} = \frac{1+6}{54} = \frac{7}{54}$$

$$258 \quad \left[ \left( \frac{3}{5} - \frac{1}{3} \right) \times \left( \sqrt{\frac{81}{16}} + \frac{5}{2} \times \frac{17}{20} \right) - \frac{1}{6} \right] : \left( \frac{1}{4} - \frac{1}{3^2} \right) + \frac{1}{5}$$

$$= \left[ \frac{9-5}{15} \times \left( \frac{9}{4} + \frac{7}{8} \right) - \frac{1}{6} \right] : \left( \frac{1}{4} - \frac{1}{9} \right) + \frac{1}{5} =$$

$$= \left[ \frac{4}{15} \times \frac{18+7}{8} - \frac{1}{6} \right] : \frac{9-4}{36} + \frac{1}{5} =$$

$$= \left[ \frac{4}{15} \times \frac{25}{8} - \frac{1}{6} \right] \times \frac{36}{5} + \frac{1}{5} =$$

$$= \left[ \frac{5}{6} - \frac{1}{6} \right] \times \frac{36}{5} + \frac{1}{5} =$$

$$= \frac{4}{6} \times \frac{36}{5} + \frac{1}{5} = \frac{24}{5} + \frac{1}{5} = \frac{25}{5} = 5$$

## RADICALI

$$\begin{aligned}
 & 3\sqrt{50} + \frac{4}{\sqrt{2}} + \sqrt{20} : \sqrt{10} + \sqrt{2^3} = \sqrt{2^2 \cdot 2} \\
 & = 3\sqrt{2 \cdot 25} + \frac{2 \cdot 2\sqrt{2}}{2} + \sqrt{2} + 2\sqrt{2} = \\
 & = 3 \cdot 5\sqrt{2} + 2\sqrt{2} + \sqrt{2} + 2\sqrt{2} = 20\sqrt{2}
 \end{aligned}$$

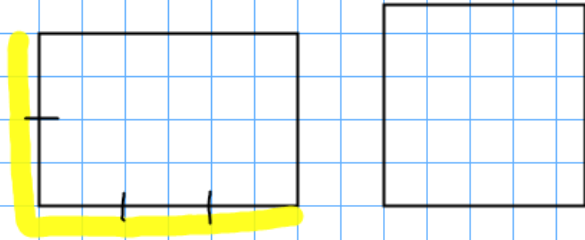
$$\begin{aligned} & \sqrt{36} : \sqrt{12} + \frac{9}{\sqrt{3}} + \sqrt{3^5} - \sqrt{48} = \\ & = \sqrt{3} + \frac{\cancel{9}\sqrt{3}}{\cancel{3}} + 3^2\sqrt{3} - \sqrt{3 \cdot 16} = \\ & = \sqrt{3} + 3\sqrt{3} + 9\sqrt{3} - 4\sqrt{3} = 9\sqrt{3} \end{aligned}$$

## PROBLEMI DI GEOMETRIA

In un rettangolo il perimetro misura cm 40 e l'altezza è  $\frac{2}{3}$  della base.

Calcola l'area.

+ Calcola il perimetro del quadrato equivalente.



$$2p_r = 40 \text{ cm}$$

$$h = \frac{2}{3} b$$

$$A_q = A_r = ?$$

$$2p_q = ?$$

$$\frac{2}{3} + \frac{3}{3} = \frac{5}{3} \Rightarrow p = 20 \text{ cm}$$

$$20 : 5 = 4 \text{ cm U.F.}$$

$$b = 4 \cdot 3 = 12 \text{ cm}$$

$$h = 4 \cdot 2 = 8 \text{ cm}$$

$$A_r = b \cdot h = 12 \cdot 8 = 96 \text{ cm}^2$$

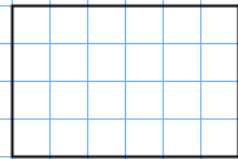
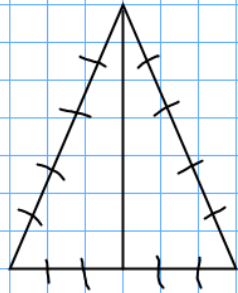
$$p = \sqrt{A} = \sqrt{96} \approx 9,8 \text{ cm}$$

$$2p = p \cdot 4 = 9,8 \cdot 4 \approx 39,2 \text{ cm}$$

In un triangolo isoscele il perimetro misura cm 96 il lato obliquo è  $\frac{5}{6}$  della base. L'altezza è  $\frac{2}{3}$  della base.

Calcola l'area.

+ Calcola l'area di un rettangolo isoperimetrico avente l'altezza di cm 20.



$$2p = 96 \text{ cm}$$

$$l = \frac{5}{6} b$$

$$h = \frac{2}{3} b$$

$$A = ?$$

$$2p(\text{rett}) = 2p(\text{tri})$$

$$h(\text{rett}) = 20 \text{ cm}$$

$$\frac{5}{6} + \frac{5}{6} + \frac{6}{6} = \frac{16}{6} = 96 \text{ cm}$$

$$96 : 16 = 6 \text{ cm U.F.}$$

$$l = 5 \cdot 6 = 30 \text{ cm}$$

$$b = 6 \cdot 6 = 36 \text{ cm}$$

$$h = \frac{2}{3} b = \frac{2}{3} \cdot 36 = 24 \text{ cm}$$

$$A = \frac{b \cdot h}{2} = \frac{36 \cdot 24}{2} = 432 \text{ cm}^2$$

$$+ b = p - h = \frac{96}{2} - 20 = 28 \text{ cm}$$

$$A_{\text{rett}} = b \cdot h = 28 \cdot 20 = 560 \text{ cm}^2$$