

Tarefa Básica - Triângulo Retângulo

01 $h^2 = (\sqrt{3})^2 + (\sqrt{4})^2$

$h^2 = 3 + 4$

$h^2 = 7$

$h = \sqrt{7} //$ (B)

02 $x^2 + 6^2 = 10^2$

$x^2 + 36 = 100$

$x^2 = 100 - 36$

$x^2 = 64$

$x = \sqrt{64} = 8m //$

03 $(AC)^2 = 2^2 + 1^2$

$(AC)^2 = 4 + 1$

$(AC)^2 = 5$

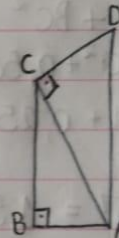
$AC = \sqrt{5}$

$(CD)^2 = 3^2 - (\sqrt{5})^2$

$(CD)^2 = 9 - 5$

$(CD)^2 = 4$

$CD = \sqrt{4} = 2 //$ (B)



04 $x^2 = a^2 + a^2$

$x^2 = 2a + 2a$

$x^2 = 4a$

$x = \sqrt{4a} = 2a //$ (B)

05 $h^2 = a^2 + b^2$

$6^2 = 2^2 + b^2$

$36 = 4 + b^2$

$36 - 4 = b^2$

$32 = b^2$

$\sqrt{32} = 16 : 2 = 8 : 2 = 4 : 2 = 2 : 2 = 1$

$A = \frac{c \cdot c}{2}$

$A = \frac{2 \cdot 4}{2} = \frac{\sqrt{8}}{2} = 4\sqrt{2} //$ (C)

$$06) h^2 = 6^2 + 8^2$$

$$h^2 = 36 + 64$$

$$h^2 = 100$$

$$h = \sqrt{100}$$

$$h = \sqrt{10^2}$$

$$A = \frac{\sqrt{10^2}}{2} = 2\sqrt{5} \quad (A)$$

$$07) \text{ Após 5 segundos } \rightarrow 5.16 = 80 \text{ cm} = 0,80 \text{ m}$$

$$2 \text{ m} - 0,80 \text{ cm} = 1,20 \text{ m}$$

$$5.10 = 50 = 0,50 \text{ m}$$

$$AB^2 = AC^2 + BC^2$$

$$AB^2 = 1,20^2 + 0,50^2$$

$$AB^2 = 1,44 + 0,25$$

$$AB^2 = 1,69$$

$$AB = \sqrt{1,69} = 1,30 \text{ m} \quad (B)$$

$$08) 8^2 = 4^2 + x^2$$

$$x^2 = 64 - 16$$

$$x^2 = 48$$

$$x = \sqrt{48} = 2^2\sqrt{3} = 4\sqrt{3} \text{ m} \quad \leftarrow AB$$

$$13^2 = (4+x)^2 + (4\sqrt{3})^2$$

$$169 = x^2 + 8x + 16 + 16.3$$

$$169 = x^2 + 8x + 16 + 48$$

$$x^2 + 8x + 64 - 169 = 0$$

$$x^2 + 8x - 105 = 0$$

$$\Delta = 64 - 4.1.(-105)$$

$$\Delta = 64 + 420$$

$$\Delta = 484$$

$$x = \frac{-8 \pm \sqrt{484}}{2.1}$$

$$x' = \frac{-8 - 22}{2} = -15$$

$$x'' = \frac{-8 + 22}{2} = \frac{14}{2} = 7 \text{ m} \quad (D)$$

$$\begin{array}{l}
 \textcircled{09} \quad 15^2 = h^2 + m^2 \\
 13^2 = h^2 + n^2 \\
 m+n=14
 \end{array}
 \left\{
 \begin{array}{l}
 15^2 - 13^2 = m^2 - n^2 \\
 2 \cdot 28 = 14 \cdot (m-n) \\
 m-n=4 \\
 m=n=9
 \end{array}
 \right\}
 \left\{
 \begin{array}{l}
 15^2 = h^2 + 9^2 \\
 h^2 = 24 \cdot 8 \\
 h=12 //
 \end{array}
 \right.$$

$$\begin{array}{l}
 \textcircled{10} \quad (R+r)^2 = (R-r)^2 + x^2 \\
 x^2 = (2R) \cdot (2r) \\
 x = 2\sqrt{Rr} //
 \end{array}$$

$$\begin{array}{l}
 \textcircled{11} \quad a^2 = b^2 + c^2 \\
 (Ac)^2 = 40^2 + 30^2 \\
 (Ac)^2 = 1600 + 900 \\
 (Ac)^2 = 2500 \\
 (Ac) = \sqrt{2500} = 50
 \end{array}
 \left\{
 \begin{array}{l}
 c^2 = a \cdot m \\
 20^2 = 50 \cdot m \\
 400 = 50m \\
 m = \frac{400}{50} = 8 // \textcircled{c}
 \end{array}
 \right.$$