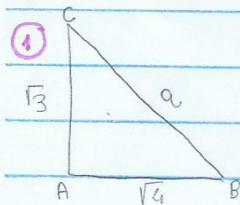


tarea básica

TRIÁNGULO RETÁNGULO



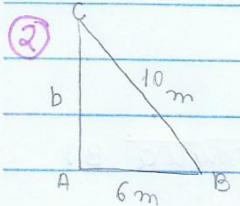
Teorema de Pitágoras

$$a^2 = b^2 + c^2$$

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

$$a^2 = \sqrt{3+4}$$

$$a = \sqrt{7} \rightarrow \text{alternativa B)}$$



Teorema de Pitágoras

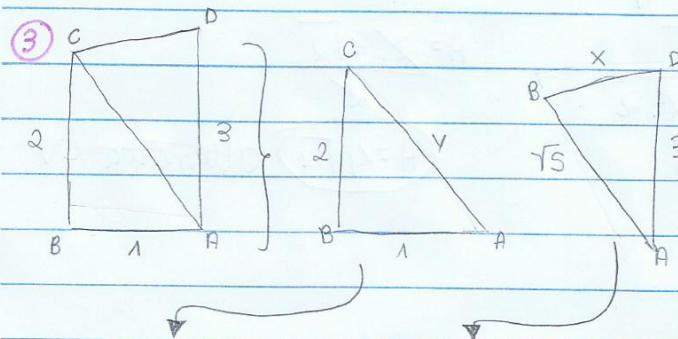
$$a^2 = b^2 + c^2$$

$$10^2 = b^2 + 6^2$$

$$b^2 = 100 - 36$$

$$b = \sqrt{64}$$

$$b = 8 \text{ m}$$



$$y^2 = 2^2 + 1^2$$

$$y^2 = 4 + 1$$

$$y = \sqrt{5}$$

$$3^2 = x^2 + (\sqrt{5})^2$$

$$9 = x^2 + 5$$

$$x^2 = 9 - 5$$

$$x = \sqrt{4}$$

$$(x=2) \text{ alternativa B)}$$



4)

$$\begin{aligned} y^2 &= a^2 + a^2 \\ y^2 &= 2a^2 \\ y &= \sqrt{2a^2} \\ y &= a\sqrt{2} \end{aligned}$$

$$\begin{aligned} z^2 &= y^2 + a^2 \\ z^2 &= (a\sqrt{2})^2 + a^2 \\ z^2 &= a^2 \cdot 2 + a^2 \\ z &= \sqrt{3a^2} \\ z &= a\sqrt{3} \end{aligned}$$

$$\begin{aligned} x^2 &= a^2 + z^2 \\ x^2 &= a^2 + (a\sqrt{3})^2 \\ x^2 &= a^2 + a^2 \cdot 3 \\ x &= \sqrt{4a^2} \\ x &= 2a \end{aligned}$$

(x = 2a) Alternativa B)

5)

$$\begin{aligned} h^2 &= 6^2 + 2^2 \\ 36 &= h^2 + 4 \\ h^2 &= 36 - 4 \\ h &= \sqrt{32} \\ h &= \sqrt{2^2 \cdot 2^2 \cdot 2} \\ h &= 4\sqrt{2} \end{aligned}$$

Área do triângulo

$$A = \frac{b \cdot h}{2}$$

$$A = \frac{2 \cdot 4\sqrt{2}}{2}$$

(A = 4\sqrt{2}) Alternativa C)

6)

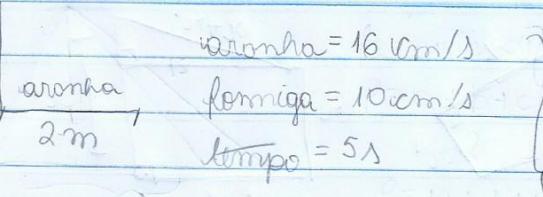
$$\begin{aligned} y^2 &= 6^2 + 8^2 \\ y^2 &= 36 + 64 \\ y &= \sqrt{100} \\ y &= 10 \text{ m} \end{aligned}$$

$$\begin{aligned} 10^2 &= x^2 + (2x)^2 \\ 100 &= x^2 + 4x^2 \\ 100 &= 5x^2 \\ x &= \frac{100}{5} \end{aligned}$$

$x = \sqrt{2^2 \cdot 5}$
 $x = 2\sqrt{5} \text{ m}$

Alternativa A)

$$x = \sqrt{20}$$

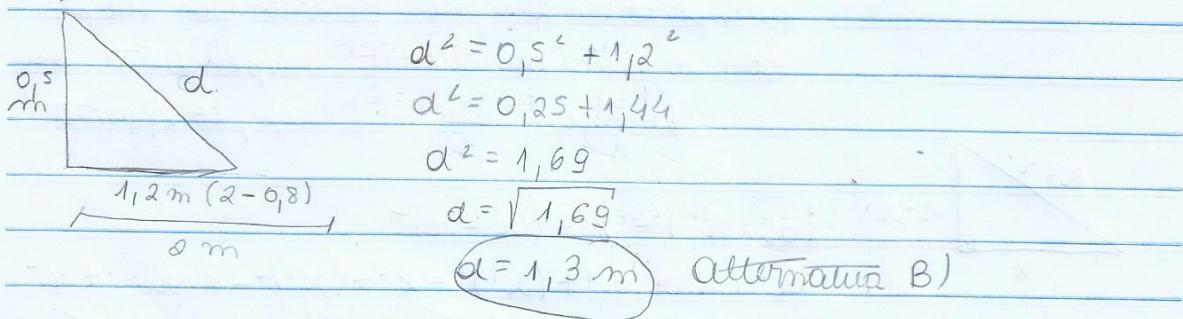
7) 

aranha = 16 cm/s
formiga = 10 cm/s
tempo = 5 s

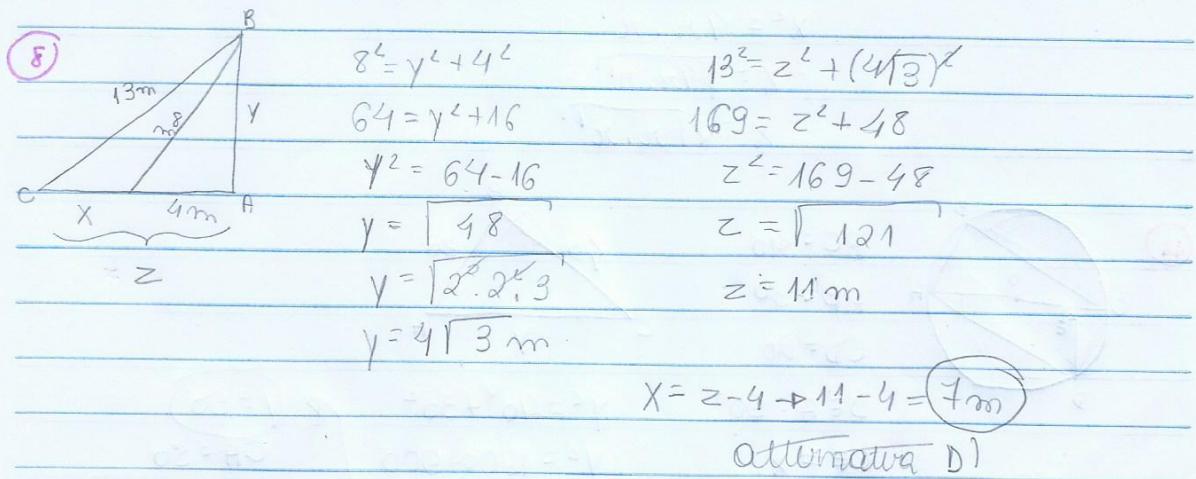
ARANHA - 1 s = 16 cm
5 s ~~x~~
 $x = 80 \text{ cm}$

FORMIGA - 1 s = 10 cm
 $5 \text{ s} = y$
 $y = 50 \text{ cm}$

formiga andou 50 cm $\rightarrow 0,5 \text{ m}$
aranha andou 80 cm $\rightarrow 0,8 \text{ m}$

8) 

$d^2 = 0,5^2 + 1,2^2$
 $d^2 = 0,25 + 1,44$
 $d^2 = 1,69$
 $d = \sqrt{1,69}$
 $d = 1,3 \text{ m}$ alternativa B)

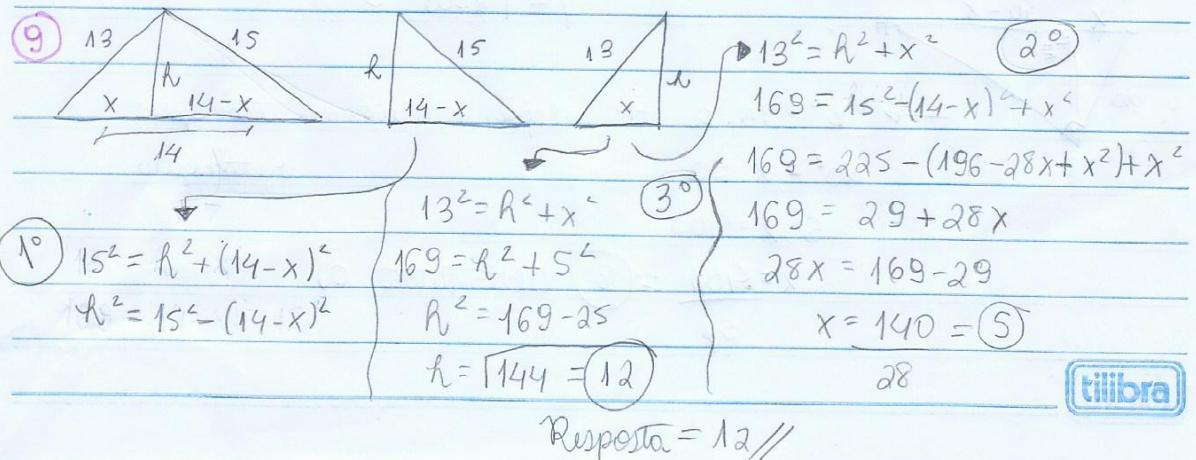
8) 

$8^2 = y^2 + 4^2$
 $64 = y^2 + 16$
 $y^2 = 64 - 16$
 $y = \sqrt{48}$
 $y = \sqrt{2^2 \cdot 2^2 \cdot 3}$
 $y = 4\sqrt{3} \text{ m}$

$13^2 = z^2 + (4\sqrt{3})^2$
 $169 = z^2 + 48$
 $z^2 = 169 - 48$
 $z = \sqrt{121}$
 $z = 11 \text{ m}$

$x = z - 4 \rightarrow 11 - 4 = 7 \text{ m}$

alternativa D)

9) 

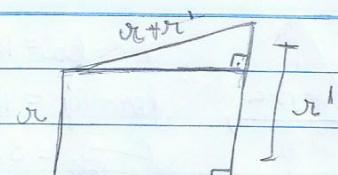
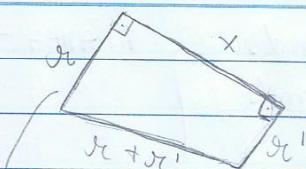
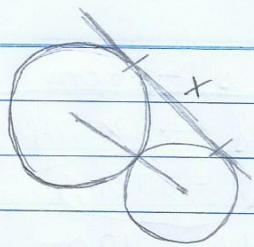
$13^2 = h^2 + x^2$ (2º)
 $169 = 15^2 - (14-x)^2 + x^2$
 $169 = 225 - (196 - 28x + x^2) + x^2$
 $169 = 29 + 28x$
 $28x = 169 - 29$
 $x = 140 = 5$

$15^2 = h^2 + (14-x)^2$ (1º)
 $h^2 = 15^2 - (14-x)^2$
 $h^2 = 169 - 225$
 $h = \sqrt{144} = 12$

Resposta = 12 //



10)



→ângulos de 90°

ângulos formados

pelos pentes do tangente

com os raios do círculo

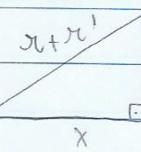
referência

→ângulos de 90°

do retângulo e do triângulo são cor-

respondentes, ou

sej., congruentes.



$$(r+r')^2 = x^2 + (r'-r)^2$$

$$r^2 + 2 \cdot r \cdot r' + (r')^2 = x^2 + (r')^2 - 2 \cdot r \cdot r' + r^2$$

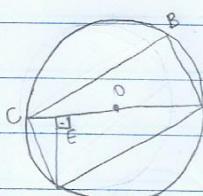
$$x^2 = r^2 + 2 \cdot r \cdot r' + (r')^2 - (r')^2 + 2 \cdot r \cdot r' = r^2$$

$$x^2 = 4r \cdot r'$$

$$x = \sqrt{4r \cdot r'}$$

$$x = 2\sqrt{r \cdot r'}$$

11)



$$BC = 40$$

$$AB = 30$$

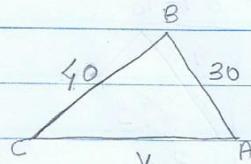
$$CD = 20$$

$$\angle D \hat{=} \angle A = 90^\circ$$

$$CE = x$$

$$DE = 50 - x$$

$$AE = 50 - x$$



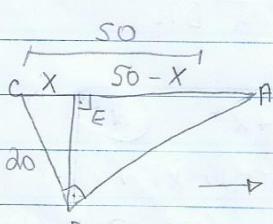
$$y^2 = 40^2 + 30^2$$

$$y^2 = 1600 + 900$$

$$y = \sqrt{2500}$$

$$y = 50$$

$$CA = 50$$



$b^2 = m \cdot a \rightarrow$ relações métricas no triângulo

$$50^2 = x \cdot 50$$

retângulo

$$50x = 2500$$

$$x = 50 \Rightarrow \text{alternativa c)}$$

$$50$$