Tarefa 6 → Triângulo Retângulo
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1)

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

$h^2 = 3 + 4$

$h^2 = 7$

$h = \sqrt{7}$

B

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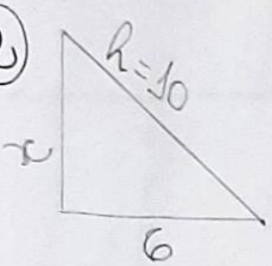
2)



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

$100 = x^2 + 36$

$100 - 36 = x^2$

$\sqrt{64} = x \Rightarrow \boxed{x = 8m}$

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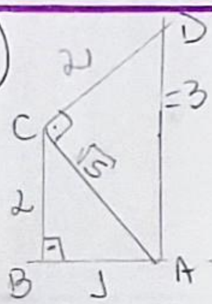
3)



AB = 1
BC = 2
AD = 3
CD = ?
AC =

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

$(AC)^2 = 4 + 1$

$(AC)^2 = 5$

$AC = \sqrt{5}$

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

$9 = 5 + (CD)^2$

$9 - 5 = (CD)^2$

$4 = CD^2$

$\sqrt{4} = CD = \boxed{2}$

B

2

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4)

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

$x^2 = 2a^2$

$\boxed{x = 2a}$

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5) $6^2 = 2^2 + x^2 \Rightarrow \sqrt{(36-4)} = x \rightarrow 32 = 2^2 \cdot 2^2 \cdot 2 \rightarrow 4\sqrt{2}$

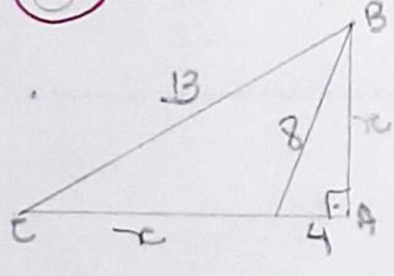
$a = \dfrac{2(4\sqrt{2})}{2} \Rightarrow 4\sqrt{2}\,cm$

C

6

7

8



Para descobrir AB

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

$x^2 = 64 - 16$

$x^2 = 48$

$x = \sqrt{48}$

$x = 2^2\sqrt{3}$

$x = 4\sqrt{3}$ m

48	2
24	2
12	2
6	2
3	3
$2^4 . 3$	

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

$169 = x^2 + 8x + 16 + 16 . 3$

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

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

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

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

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

$\Delta = 64 - 4 . 1(-105)$

$\Delta = 64 + 420$

$\Delta = 484$

$x = \frac{-8 \pm \sqrt{484}}{2 . 1}$

$x = \frac{-8 \pm 22}{2}$

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

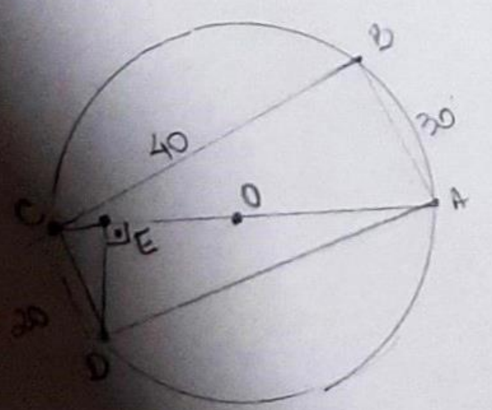
$x'' = \frac{-8 + 22}{2} \Rightarrow x'' = \frac{14}{2} \Rightarrow x'' = 7$

Resp. D

7m

10

11 na figura, AB = 30, BC = 40, CD = 20. O é o centro da circunferência e $D\hat{E}A = 90°$. O valor de CE é:



$\Delta ABC \rightarrow$ achar a hipotenusa AC:

BC = 40
AB = 30
AC: ?

$(AC)^2 = (40)^2 + (30)^2$

$(AC)^2 = 1600 + 900$

$(AC)^2 = 2500$

$AC = \sqrt{2500}$

$\boxed{AC = 50}$

Os triângulos ABC e ACD são retângulos (inscritos em semi-circunferências) então $\overline{AC} = 50$

$CDE \cong ACD$

$\underbrace{C\hat{D}E = C\hat{A}D}_{x}$

$\operatorname{sen} x = \dfrac{CE}{CD}$

$\operatorname{sen} x = \dfrac{CD}{AC} \Rightarrow \dfrac{CE}{20} = \dfrac{20}{50} \Rightarrow CE = 8$

$\boxed{\text{Resp C}}$