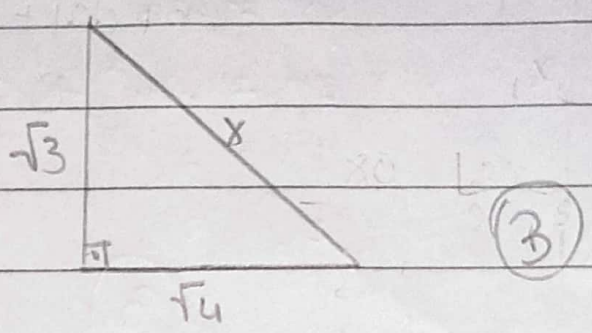
Tarefa Básica

01.

cateto$_1$ = $\sqrt{3}$

cateto$_2$ = $\sqrt{4}$

hip = ?



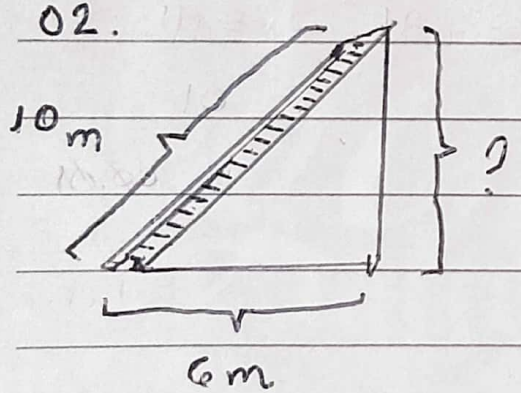
(3)

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

$x^2 = 3 + 4$

$x = \sqrt{7}$

02.



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

$100 = x^2 + 36$

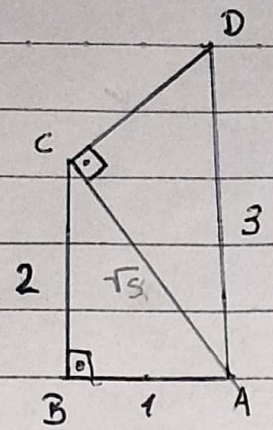
$100 - 36 = x^2$

$64 = x^2$

$x = \sqrt{64}$

$x = 8$ metros

3.



$AC^2 = 1^2 + 2^2$

$AC^2 = 1 + 4$

$AC^2 = 5$

$AC^2 = \sqrt{5}$

(B)

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

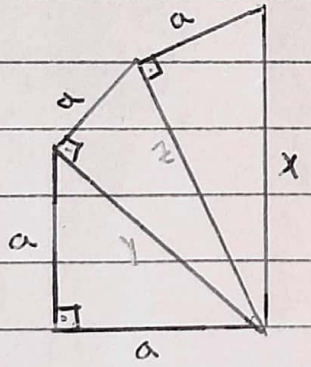
$9 = CD^2 + 5$

$9 - 5 = CD^2$

$CD^2 = 4$

$CD = \sqrt{4} = 2$

4.



$y^2 = a^2 + a^2$

$y^2 = 2a^2$

$z^2 = 2a^2 + a^2$

$z^2 = 3a^2$

$x^2 = 3a^2 + a^2$

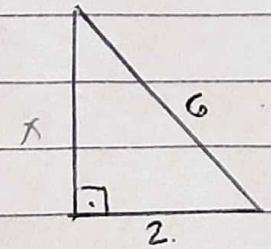
$x^2 = 4a^2$

$x = \sqrt{4a^2}$

$x = 2a$

(B)

5.



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

$36 = x^2 + 4$

$x = 36 - 4$

$x = \sqrt{32} = 4\sqrt{2}$

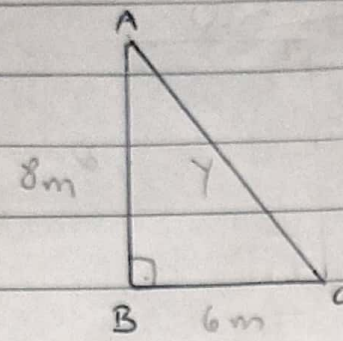
32 | 2
16 | 2
8 | 2
4 | 2
2 | 2
1

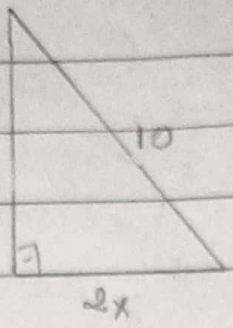
(C)

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

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

06.





$y^2 = 36 + 64$

$y = \sqrt{100}$

$y = 10$

$10^2 = x^2 + (2x)^2$

$100 = x^2 + 4x^2$

$100 = 5x^2$

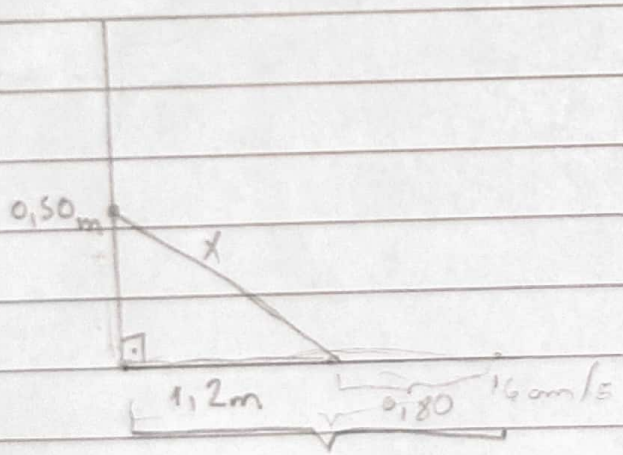
$\frac{100}{5} = x^2$

$x = \sqrt{20}$

$x = 2\sqrt{5}$

(a)

7.



1 cm = 0,01 m

16 cm = x

x = 0,16 cm

16 cm → 0,16 m

10 cm → 0,10 m

$x^2 = 1,2^2 + 0,5^2$

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

$x^2 = 1,69$

$x = \sqrt{1,69}$

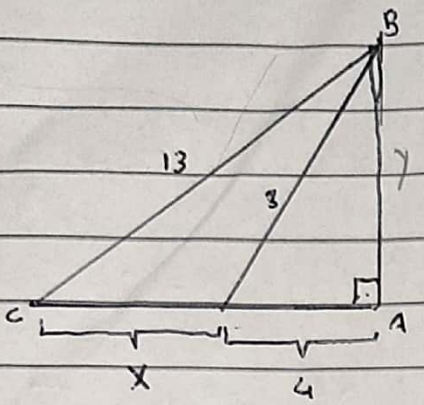
$x = 1,3$ m

0,01 × 16 = 0,16

1,2 × 1,2 = 1,44

(B)

8.



$8^2 = y^2 + 4^2$

$64 = y^2 + 16$

$48 = y^2$

$y = \sqrt{48}$

$y = 4\sqrt{3}$

48	2
24	2
12	2
6	2
3	3
1	

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

$(x+4)(x+4)$

$x^2 + 4x + 4x + 16$

$169 = 16 \cdot 3 + x^2 + 8x + 16$

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

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

$105 = x^2 + 8x$

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

$\Delta = 64 + 420$

$\Delta = 484$

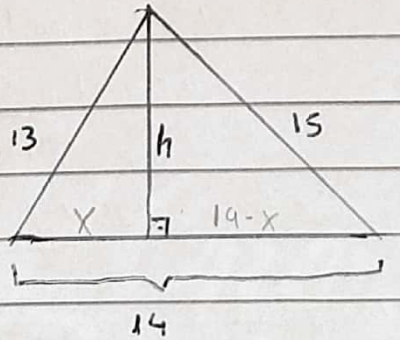
$x = \frac{-8 \pm 22}{2}$

$x' = \frac{14}{2} = 7$

$x'' = \frac{-30}{2} = -15$

$x = 7$ metros

9.



$(14-x)(14-x)$

$196 - 14x - 14x + x^2$

$15^2 = h^2 + (14-x)^2$

$225 = h^2 + 196 - 28x + x^2$

$29 + 28x - x^2 = h^2$

$13^2 = x^2 + h^2$

$169 = x^2 + h^2$

$169 - x^2 = h^2$

$29 + 28x - x^2 = 169 - x^2$

$28x = 140$

$x = \frac{140}{28} = 5$

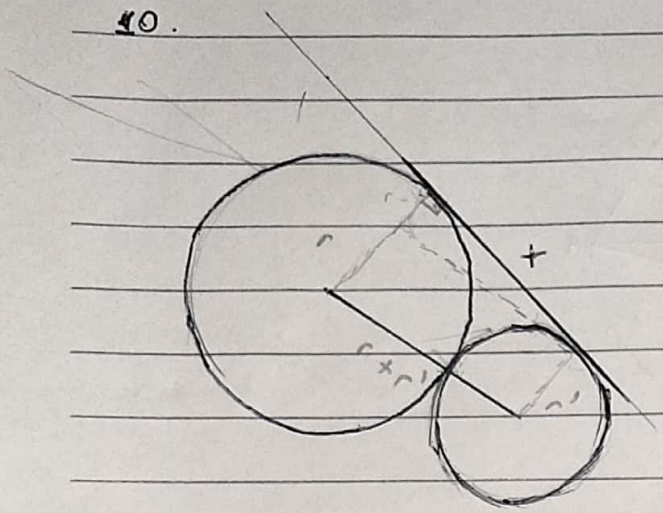
$h^2 = 169 - 25$

$h^2 = 144$

$h = \sqrt{144}$

$h = 12$

10.



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

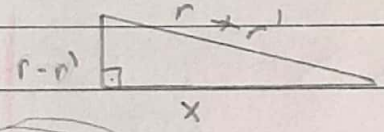
$$r^2 + 2rr' + r'^2 = x^2 + r^2 - 2rr' + r'^2$$

$$r^2 + 2rr' + r'^2 - r^2 + 2rr' - r'^2 = x^2$$

$$4rr' = x^2$$

$$x = \sqrt{4rr'}$$

$$\boxed{x = 2\sqrt{rr'}}$$



$$(r+r')(r+r')$$

$$r^2 + r.r' + r.r' + r'^2$$

$$r^2 + 2rr' + r'^2$$

$$(r-r')(r-r')$$

$$r^2 - r.r' - r.r' + r'^2$$

11.

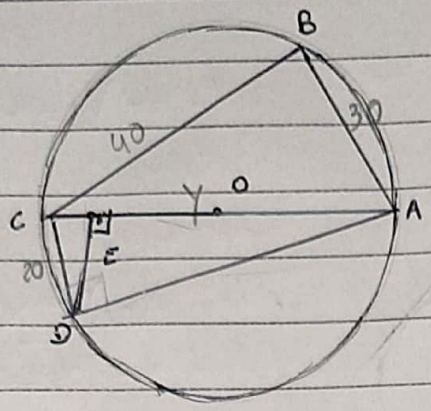
$AB = 30$

$BC = 40$

$CD = 20$

$D\hat{E}A = 90°$

$CE = ?$



$40 \times 40 = 1600$

$30 \times 30 = 900$

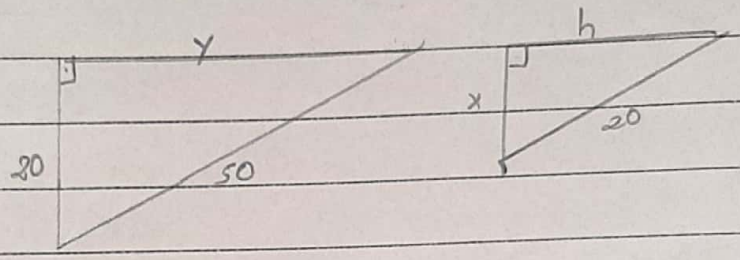
$y^2 = 40^2 + 30^2$

$y^2 = 1600 + 900$

$y^2 = 2500$

$y = \sqrt{2500}$

$y = 50$



$\frac{50}{20} = \frac{20}{x} \Rightarrow 50x = 400$

$x = 8$

(C)