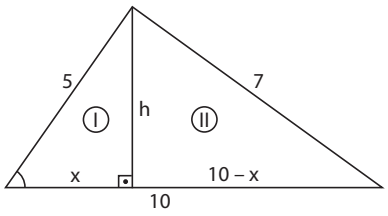
Exercícios de casa resolvidos

Extensivo – Caderno 3 – Matemática III

Aula 12

4. b)



$$\begin{cases} 5^2 = x^2 + h^2 \ (I) \\ 7^2 = h^2 + (10 - x)^2 \ (II) \end{cases}$$

$24 = 100 - 20x + x^2 - x^2$

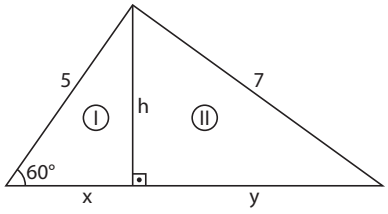
$20x = 76$

$x = \frac{19}{5}$ e $h = \frac{2\sqrt{66}}{5}$

$$S = \frac{b \cdot h}{2} = \frac{10 \cdot \frac{2\sqrt{66}}{5}}{2} = 2\sqrt{66}$$

Resposta do item B: $2\sqrt{66}$

9.



(I)

$\text{sen } 60° = \frac{h}{5}$ $\quad \cos 60° = \frac{x}{5}$

$h = \frac{5\sqrt{3}}{2}$ $\quad x = \frac{5}{2}$

(II)

$7^2 = h^2 + y^2$

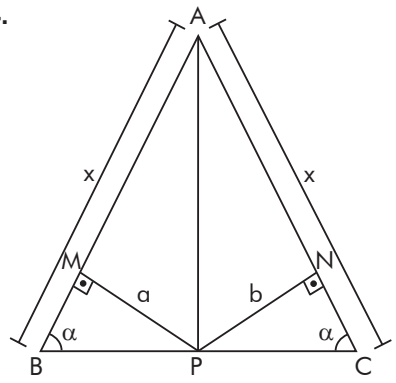
$y = \frac{11}{2}$

$$S = \frac{(x + y) \cdot h}{2} = \frac{\left(\frac{11}{2} + \frac{5}{2}\right) \cdot \frac{5\sqrt{3}}{2}}{2} = 10\sqrt{3}$$

Resposta: C

Aula 13

4.



$$\frac{a \cdot x}{2} + \frac{b \cdot x}{2} = 10$$

$$\frac{x}{2}(a + b) = 10$$

$$\frac{4x}{2} = 10$$

$$x = 5$$

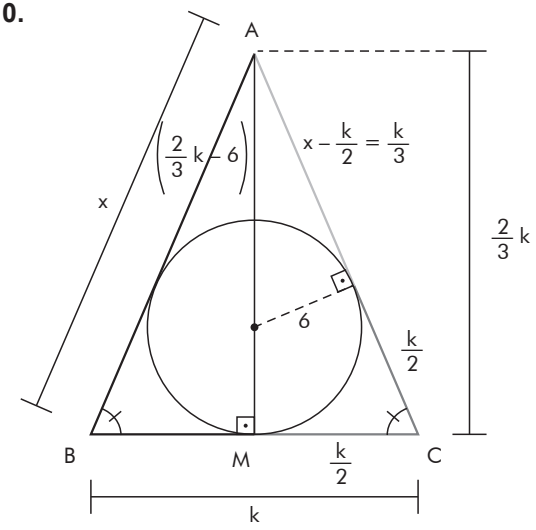
Resposta: C

7. $A = \frac{1}{2}\, a \cdot b \cdot \underbrace{\operatorname{sen}\alpha}_{\substack{\text{máximo} \\ \operatorname{sen}\alpha = 1}} = \frac{1}{2} \cdot 8 \cdot 8 \cdot 1 = 32$

Resposta: A

Aula 14

10.



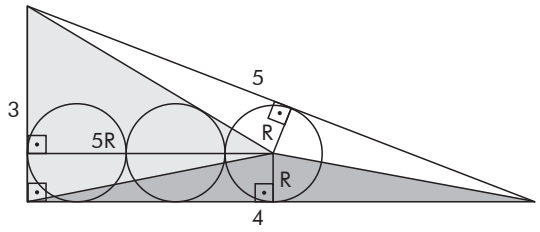
$$x^2 = \left(\frac{k}{2}\right)^2 + \left(\frac{2}{3}k\right)^2$$

$$x = \frac{5}{6}k$$

$$\left(\frac{2}{3}k - 6\right)^2 = 6^2 + \left(\frac{k}{3}\right)^2 = 24$$

Resposta: D

14.

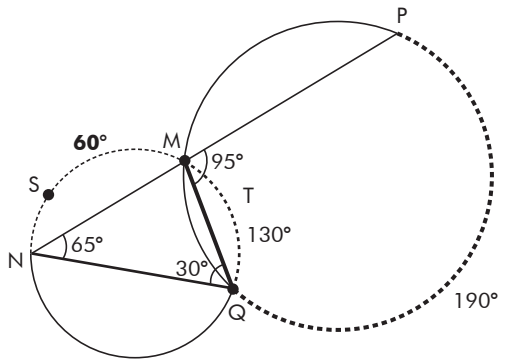


$$\frac{3 \cdot 4}{2} = \boxed{\frac{3 \cdot 5R}{2}} + \boxed{\frac{4 \cdot R}{2}} + \frac{5 \cdot R}{2} \qquad R = 0{,}5$$

Resposta: A

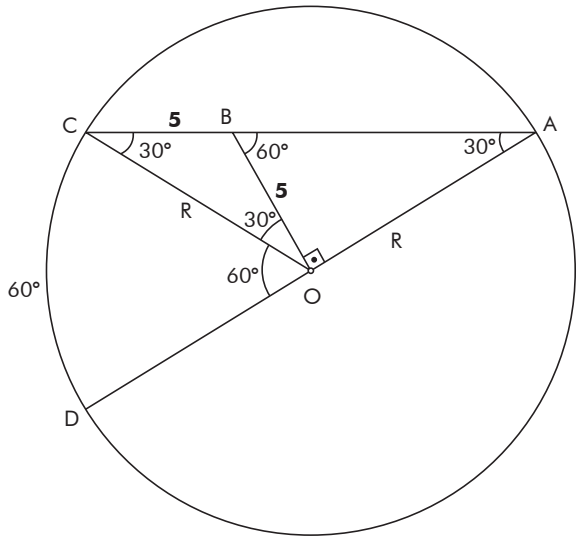
Aula 15

6.



Resposta: A (60°)

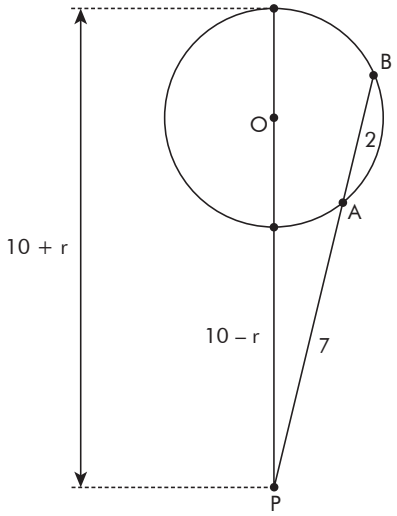
9.



Resposta: D (5)

Aula 16

6.



$7 \cdot (7 + 2) = (10 - r) \cdot (10 + r)$

$63 = 100 - r^2$

$r = \sqrt{37}$

Resposta: A

8. Temos:

$4 \cdot 9 = (R + 3) \cdot (R - 3)$

$36 = R^2 - 9$

$45 = R^2$

Logo, $R = 3\sqrt{5}$

Resposta: B