



MATEMÁTICA - 3º CICLO



FICHA

14



Geometria

Polígonos: áreas. Área de um círculo.

Nome: _____ N.º: _____ Ano: _____ Turma: _____

Data: ___ / ___ / 20__

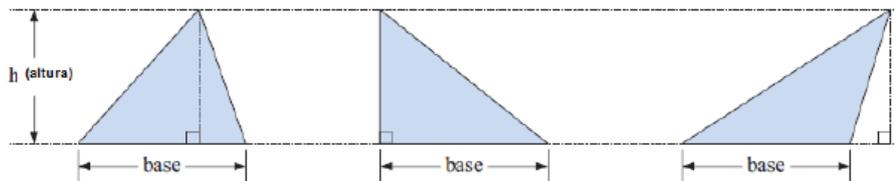
POLÍGONOS = POLI (muitos) + GONOS (ângulos)

Polígono é uma *figura plana limitada por segmentos de reta (linha poligonal)*, chamados de **lados dos polígonos**, onde cada segmento de reta intersesta exatamente dois outros extremos.

FIGURA: TRIÂNGULO (três lados)

Área:

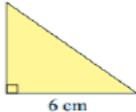
$$A = \frac{\text{base } (b) \times \text{altura } (h)}{2}$$



Exemplo:

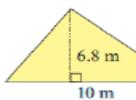
Determina a área dos triângulos que seguem:

a



$$A = \frac{b \times h}{2} = \frac{6 \times 5}{2} = \frac{30}{2}$$

b



$$A = \frac{b \times h}{2} = \frac{10 \times 6,8}{2} = \frac{68}{2} = 34$$



Exercícios:

1. Determina a área dos seguintes triângulos:

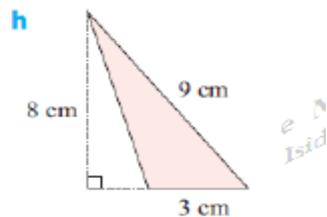
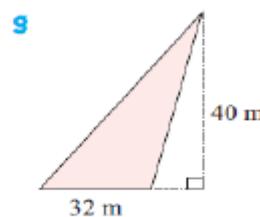
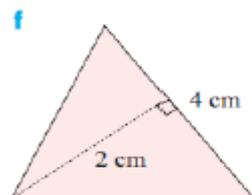
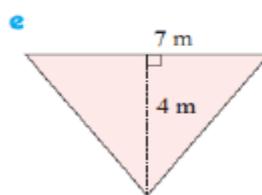
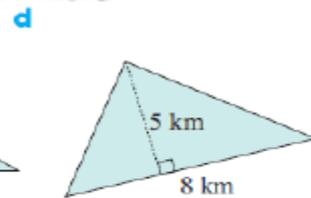
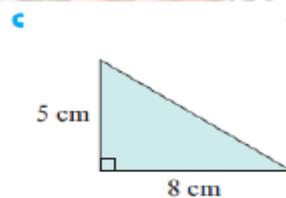
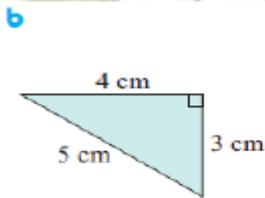
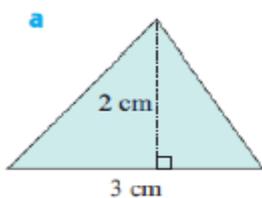
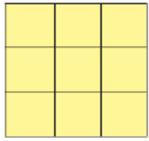
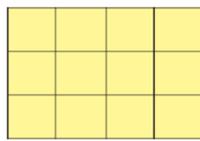


FIGURA: QUADRILÁTEROS (quatro lados)

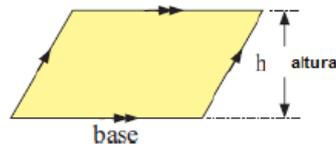
Quadrado



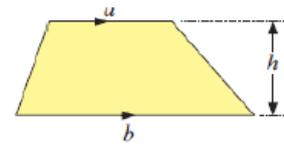
Retângulo



Paralelogramo



Trapézio



Área:

$A = \text{lado} \times \text{lado}$

$A = \text{comprimento} \times \text{largura}$

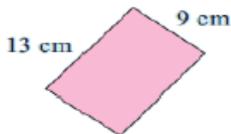
$A = \text{comprimento} \times \text{altura}$

$A = \frac{\text{base maior} + \text{base menor}}{2} \times \text{altura}$

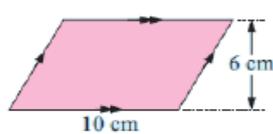
$\text{Area} = \left(\frac{a + b}{2}\right) \times h$

Exemplo:

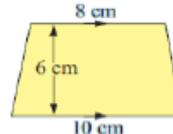
Determina a área de cada uma das figuras:



$A = 13 \times 9 =$
 $= 117 \text{ cm}^2$



$A = 10 \times 6 =$
 $= 60 \text{ cm}^2$

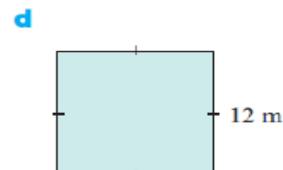
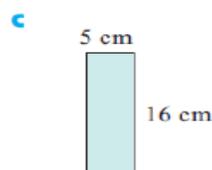
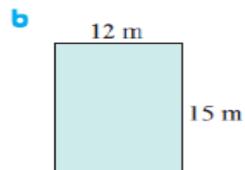
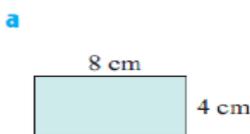


$A = \left(\frac{8 + 10}{2}\right) \times 6 \text{ cm}^2$
 $A = 9 \times 6 \text{ cm}^2$
 $A = 54 \text{ cm}^2$

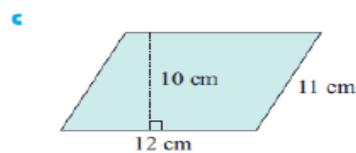
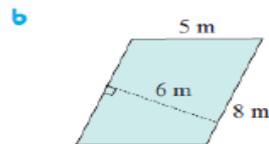
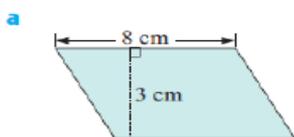


Exercícios:

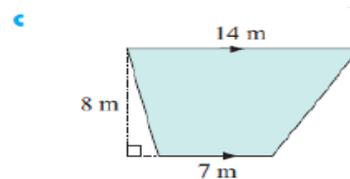
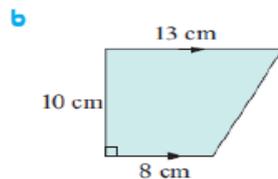
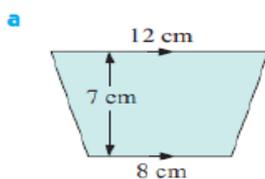
2. Determina a área dos seguintes retângulos:



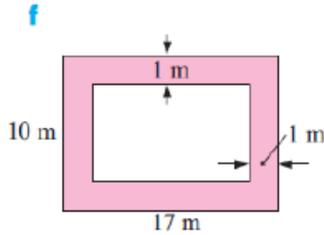
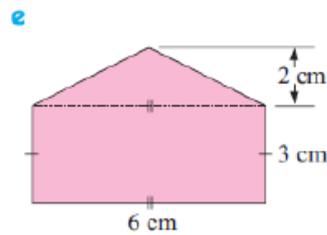
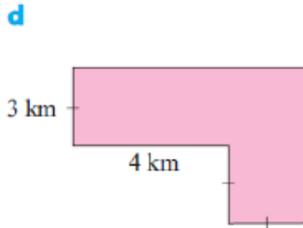
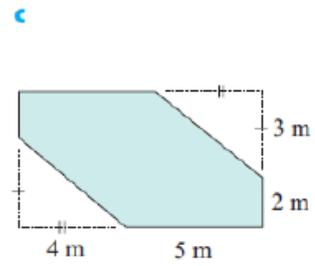
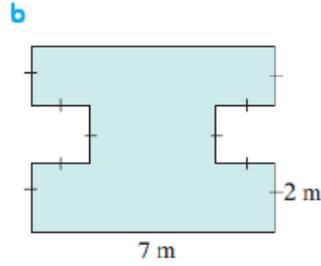
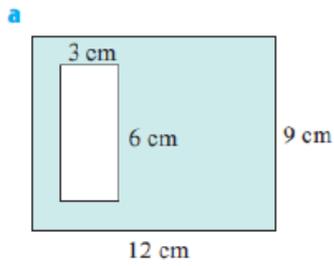
3. Determina a área dos seguintes paralelogramos:



4. Determina a área dos seguintes trapézios:



5. Determina a área das figuras seguintes:

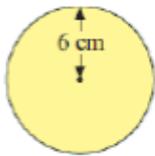


Note-se que um círculo não é um polígono, pois não é uma figura limitada por segmentos de reta.

FIGURA: CÍRCULO

Área: $A = \pi r^2$

Exemplo:



$$A = \pi r^2$$

$$A = \pi \times 6^2$$

$$A \doteq 113.1 \text{ cm}^2$$



Exercícios:

6. Determina a área de cada um dos círculos:

