

Perimeter

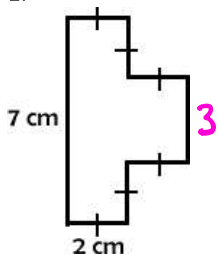
Hw Review 16

Name _____

G.GMD.A.1

Determine the perimeter of the following figures. (Lines that appear to be perpendicular are perpendicular and lines that appear to be parallel are.)

1.

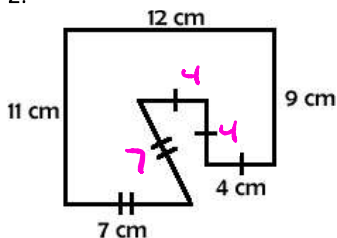


$$P = 7 + 3 + 2(6)$$

$$P = 10 + 12$$

$$P = 22 \text{ cm}$$

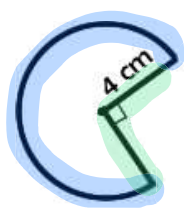
2.



$$P = 11 + 12 + 9 + 4 + 4 + 4 + 7 + 7$$

$$P = 58 \text{ cm}$$

3.



$$P_B = \frac{\theta}{360} 2\pi r + 2r$$

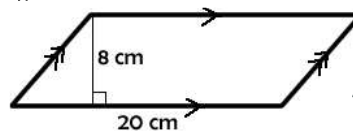
$$= \frac{90}{360} 2\pi(4) + 2(4)$$

$$= \frac{3}{4} (8\pi) + 8$$

$$P_B = (6\pi + 8) \text{ cm}$$

Determine the area of the following figures. (Lines that appear to be perpendicular are perpendicular and lines that appear to be parallel are.)

4.

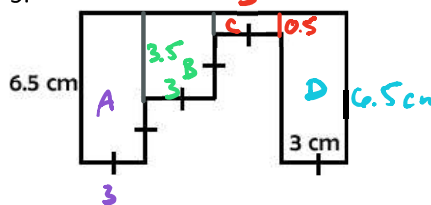


$$A_{\text{Par}} = b \cdot h$$

$$= 20(8)$$

$$A_{\text{Par}} = 160 \text{ cm}^2$$

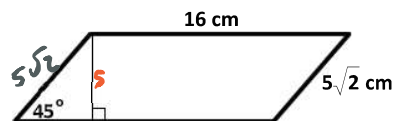
5.



$$\begin{aligned} A_{\text{FIG}} &= A_A + A_B + A_C + A_D \\ &= b_A h_A + b_B h_B + b_C h_C + b_D h_D \\ &= (3)(6.5) + (3)(3.5) + (3)(0.5) + (3)(6.5) \\ &= 19.5 + 10.5 + 1.5 + 19.5 \end{aligned}$$

$$A_{\text{FIG}} = 51 \text{ cm}^2$$

6.



$$\begin{aligned} 45^\circ - 45^\circ - 90^\circ \\ x - x - x\sqrt{2} \end{aligned}$$

$$A_{\text{parallelogram}} = b \cdot h$$

$$= 16(5)$$

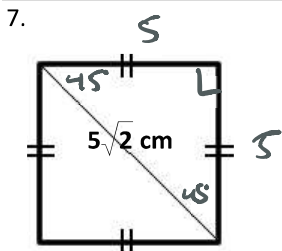
$$A_{\text{parallelogram}} = 80 \text{ cm}^2$$

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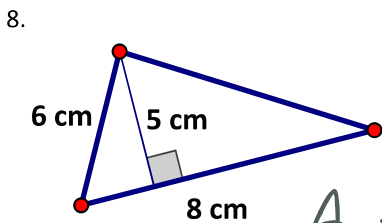


$$A_{\text{rec}} = b \cdot h$$

$$= 5(5)$$

$$A_{\text{rec}} = 25 \text{ cm}^2$$

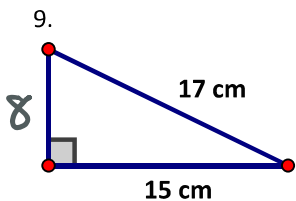
$$\frac{45-45-90}{x-x-x\sqrt{2}}$$



$$A_{\Delta} = \frac{1}{2}bh$$

$$= \frac{1}{2}(8)(5)$$

$$A_{\Delta} = 20 \text{ cm}^2$$

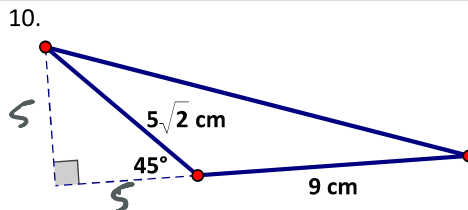


$$A_{\Delta} = \frac{1}{2}bh$$

$$= \frac{1}{2}(15)(8)$$

$$A_{\Delta} = 60 \text{ cm}^2$$

$$\frac{PT}{8-15-17}$$

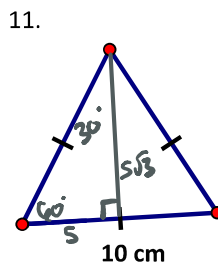


$$\frac{45-45-90}{x-x-x\sqrt{2}}$$

$$A_{\Delta} = \frac{1}{2}bh$$

$$= \frac{1}{2}(9)(5)$$

$$A_{\Delta} = \frac{45}{2} \text{ cm}^2$$

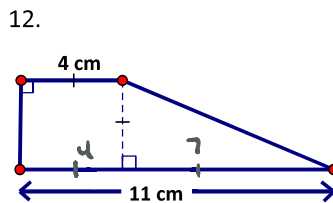


$$\frac{30-60-90}{x-x\sqrt{3}-2x}$$

$$A_{\Delta} = \frac{1}{2}bh$$

$$= \frac{1}{2}(10)(5\sqrt{3})$$

$$A_{\Delta} = 25\sqrt{3}$$



$$A_{\text{FIG}} = A_{\text{rec}} + A_{\Delta}$$

$$= b \cdot h + \frac{1}{2}bh$$

$$= 4(4) + \frac{1}{2}(7)(4)$$

$$= 16 + 14$$

$$A_{\text{FIG}} = 30 \text{ cm}^2$$

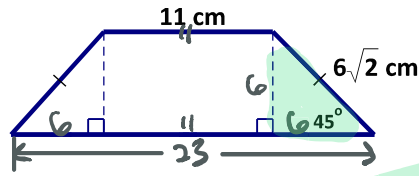
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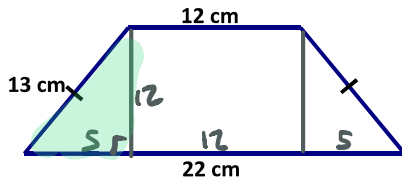
13.



$$\frac{45^\circ - 45^\circ - 90^\circ}{x - x - x\sqrt{2}}$$

$$\begin{aligned} A_{\text{TRAP}} &= \frac{1}{2}(b_1 + b_2)h \\ &= \frac{1}{2}(11 + 23)(6) \\ &= 3(34) \\ A_{\text{TRAP}} &= 102 \text{ cm}^2 \end{aligned}$$

14.

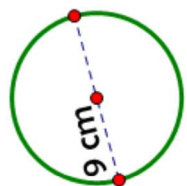


$$\frac{PT}{5-12-13}$$

$$\begin{aligned} A_{\text{TRAP}} &= \frac{1}{2}(b_1 + b_2)h \\ &= \frac{1}{2}(22 + 12)(12) \\ &= 6(34) \\ A_{\text{TRAP}} &= 204 \text{ cm}^2 \end{aligned}$$

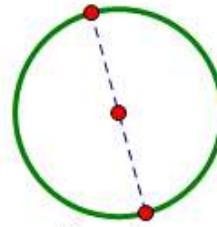
Determine the area of the circle or shaded circle sector.

15.



$$\begin{aligned} A_{\odot} &= \pi r^2 \\ &= \pi(9)^2 \\ A_{\odot} &= 81\pi \text{ cm}^2 \end{aligned}$$

16.

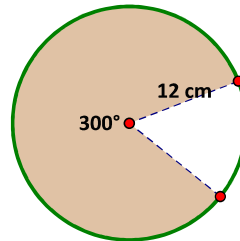


$$C = 14\pi$$

$$\begin{aligned} C &= 2\pi r \\ 14\pi &= 2\pi r \\ 7 &= r \end{aligned}$$

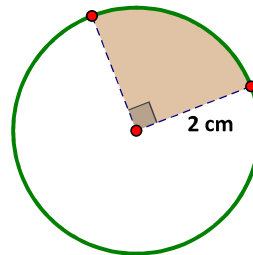
$$\begin{aligned} A_{\odot} &= \pi r^2 \\ &= \pi(7)^2 \\ A_{\odot} &= 49\pi \text{ cm}^2 \end{aligned}$$

17.



$$\begin{aligned} A_{\text{sector}} &= \frac{\theta}{360} \pi r^2 \\ &= \frac{300}{360} \pi (12)^2 \\ &= \frac{5}{6} (144\pi) \\ &= 120\pi \text{ cm}^2 \end{aligned}$$

18.



$$\begin{aligned} A_{\text{sector}} &= \frac{\theta}{360} \pi r^2 \\ &= \frac{90}{360} \pi (2)^2 \\ &= \frac{1}{4} (4\pi) \\ A_{\text{sector}} &= \pi \text{ cm}^2 \end{aligned}$$

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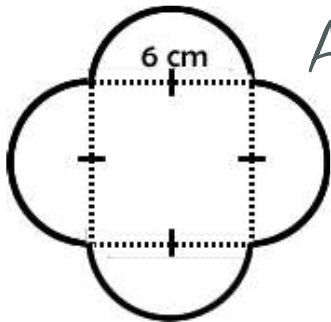
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Determine the area of the following figures. (Lines that appear to be perpendicular are perpendicular and lines that appear to be parallel are.)

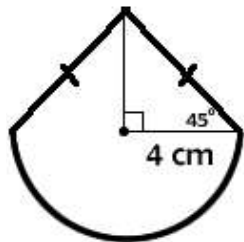
19.



$$\begin{aligned} A_{\text{FIG}} &= A_{\text{RECT}} + 2A_{\odot} \\ &= b \cdot h + 2\pi r^2 \\ &= 6(6) + 2\pi(3)^2 \\ &= 36 + 2\pi(9) \end{aligned}$$

$$A_{\text{FIG}} = (36 + 18\pi) \text{ cm}^2$$

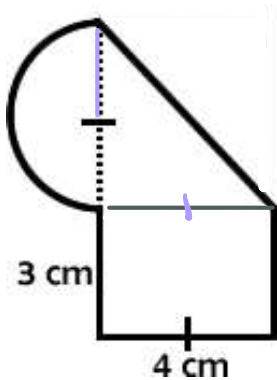
20.



$$\begin{aligned} A_{\text{FIG}} &= 2A_{\triangle} + A_{\text{semi}} \\ &= 2\left(\frac{1}{2}bh\right) + \frac{1}{2}\pi r^2 \\ &= (4)(4) + \frac{1}{2}\pi(4)^2 \\ &= 16 + \frac{1}{2}(16\pi) \end{aligned}$$

$$A_{\text{FIG}} = (16 + 8\pi) \text{ cm}^2$$

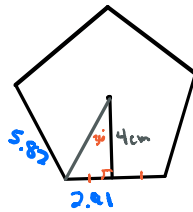
21.



$$\begin{aligned} A_{\text{FIG}} &= A_{\text{semi}} + A_{\triangle} + A_{\text{RECT}} \\ &= \frac{1}{2}\pi r^2 + \frac{1}{2}bh + bh \\ &= \frac{1}{2}\pi(2)^2 + \frac{1}{2}(4)(4) + 4(3) \\ &= \frac{1}{2}(4\pi) + 8 + 12 \\ A_{\text{FIG}} &= 2\pi + 20 \text{ cm}^2 \end{aligned}$$

Find the area of each regular polygon.

22. Pentagon with an apothem of 4 cm



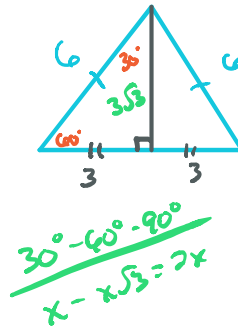
$$\begin{aligned} m\angle C &= \frac{360^\circ}{n} \\ &= \frac{360^\circ}{5} \\ m\angle C &= 72^\circ \end{aligned}$$

$$\begin{aligned} \tan(36^\circ) &= \frac{x}{4} \\ 4 \tan(36^\circ) &= x \\ 2.91 &\approx x \end{aligned}$$

$$\begin{aligned} P &= ln \\ P &= (5.82)5 \\ P &= 29.1 \end{aligned}$$

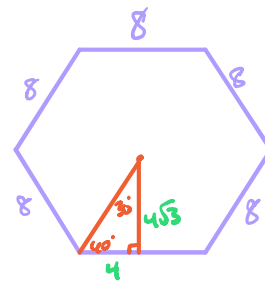
$$\begin{aligned} A_{\text{REG}} &= \frac{1}{2}Pa \\ &= \frac{1}{2}(29.1)4 \\ A_{\text{REG}} &= 58.2 \text{ cm}^2 \end{aligned}$$

23. Equilateral triangle with a side of 6 cm.



$$\begin{aligned} A_{\triangle} &= \frac{1}{2}bh \\ &= \frac{1}{2}(6)(3\sqrt{3}) \\ A_{\triangle} &= 9\sqrt{3} \text{ cm}^2 \end{aligned}$$

24. Hexagon with a perimeter of 48 cm.



$$\begin{aligned} P &= ln \\ 48 &= 6(ln) \\ 8 &= n \\ m\angle C &= \frac{360^\circ}{n} \\ &= \frac{360^\circ}{6} \\ m\angle C &= 60^\circ \end{aligned}$$

$$\begin{aligned} A_{\text{REG}} &= \frac{1}{2}Pa \\ &= \frac{1}{2}(48)(4\sqrt{3}) \end{aligned}$$

$$A_{\text{REG}} = 96\sqrt{3} \text{ cm}^2$$