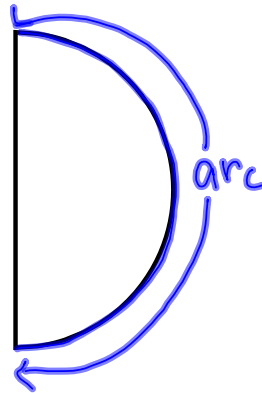
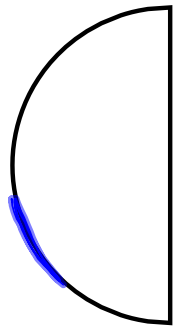


8th Grade Lesson 64

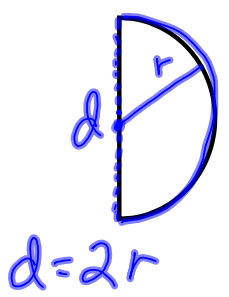
- I can use formulas to find the arc length of a semicircle and the area of a closed semicircle.



semicircle - half a circle

arc - a part of the circumference of a circle

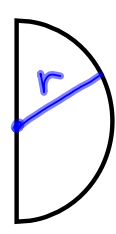
arc length - the length of an arc



$d = 2r$

Arc length of a semicircle = $\frac{d\pi}{2} = \frac{2r\pi}{2}$

$r \cdot \pi = \frac{2r \cdot \pi}{2}$



Area of a closed semicircle = $\frac{r^2\pi}{2}$

$\frac{r^2 \cdot \pi}{2}$

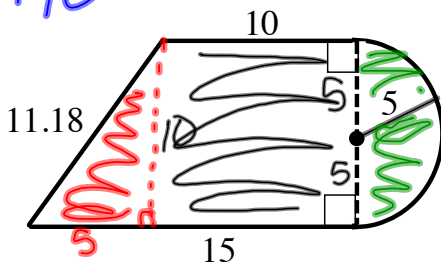
Find the perimeter and area of this figure. Dimensions are in meters.

$P = 5\pi + 15 + 11.18 + 10$

$= 5\pi + 36.18$

$= 15.7 + 36.18$

$P = 51.88 \text{ m}$



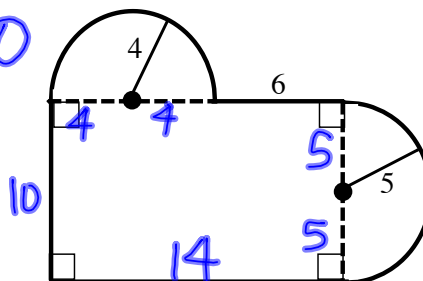
$A = \frac{25\pi}{2} + 10 \cdot 10 + \frac{5 \cdot 10^2}{2}$

$= 39.25 + 100 + 25$

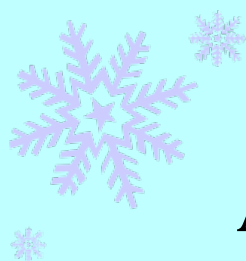
$A = 164.25 \text{ m}^2$

Find the perimeter and area of the figure. Dimensions are in centimeters.

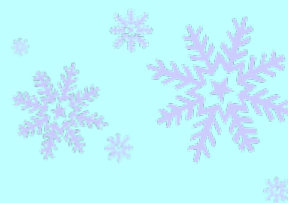
$$\begin{aligned}
 P &= 4\pi + 6 + 5\pi + 14 + 10 \\
 &= 30 + 9\pi \\
 &= 30 + 28.26 \\
 P &= 58.26 \text{ cm}
 \end{aligned}$$



$$\begin{aligned}
 A &= \frac{1}{2} \pi (4)^2 + \frac{1}{2} \pi (3)^2 + 14 \cdot 10 \\
 &= 8\pi + \frac{9\pi}{2} + 140 \\
 &= 25.12 + 39.25 + 140 \\
 A &= 204.37 \text{ cm}^2
 \end{aligned}$$



Assignment



Problem Set 64 #1-5, 7, 10-19