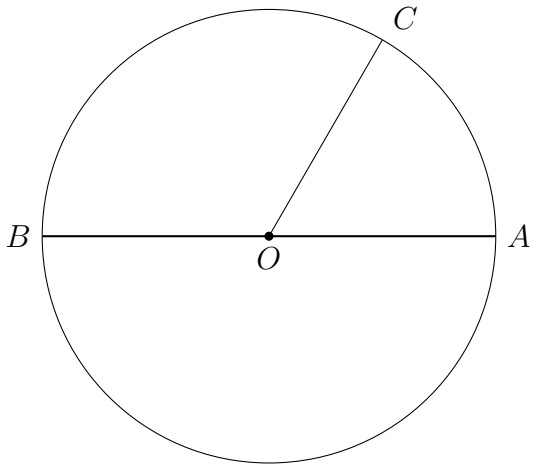
Homework: Area and volume calculations

1. Circle O has a diameter $AB = 10$, as shown.



(a) Find the area of circle O.

(b) Find the perimeter of the semi-circle with diameter $\overline{AB}$, including the length of the diameter.

(c) Given $m\angle AOC = 60°$. Find the area of the sector AOC.

(d) Find the perimeter of the sector AOC.

2. Find the volume of a pyramid ($V = \frac{1}{3}Bh$) having a height of 14.5 inches and with a square base having side lengths of 15 inches. Express your result to the *nearest cubic inch*.

3. Find the volume of a hemisphere with a radius of 6 inches, to the *nearest whole cubic inch*. (The formula for the volume of a *sphere* is $V = \frac{4}{3}\pi r^3$)

4. Given a rectangle with area 60, width x, and length $x + 7$.

   (a) Find x.

   (b) Find the perimeter of the rectangle.