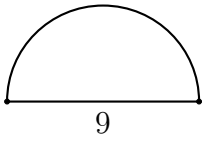
8.5 Do Now: Volumes & solid geometry

1. Find the area of a semi-circle with diameter of 9 centimeters.



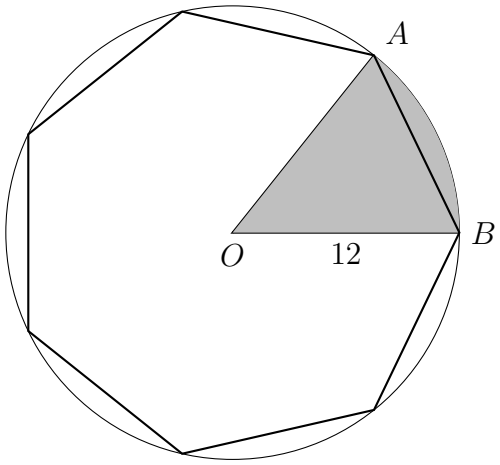
2. Given circle O with radius $OB = 12$ cm.

   (a) Find the circumference of circle O.

   (b) Find the area of the circle.

   (c) A regular heptagon (7 sides) is inscribed in the circle, with A and B two of its vertices.

   Find the area of the sector AOB.



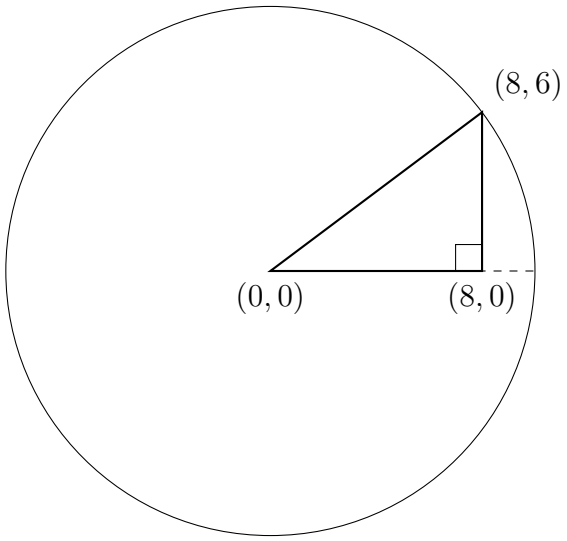
3. Find the volume of a pyramid ($V = \frac{1}{3}Bh$) having a height of 9 meters and with a square base having side lengths of 14 meters. Express your result to the *nearest cubic meter*.

The equation of a circle

4. A circle centered at the origin includes the point $(8, 6)$, as shown below.

   (a) Find the radius of the circle.

   (b) Name another point on the circle as an ordered pair.



5. What is the equation of a circle with center $(1, -5)$ and radius $r = 3$. Use the equation $(x - a)^2 + (y - b)^2 = r^2$.

Applying density ratios

6. A large block of stone has a volume of 12 cubic feet. The density of stone is 140 pounds per cubic feet. Find the weight of the block.

7. A tank of heating oil holds 250 gallons. Find the cost to completely fill the tank if heating oil costs \$3.45 per gallon.