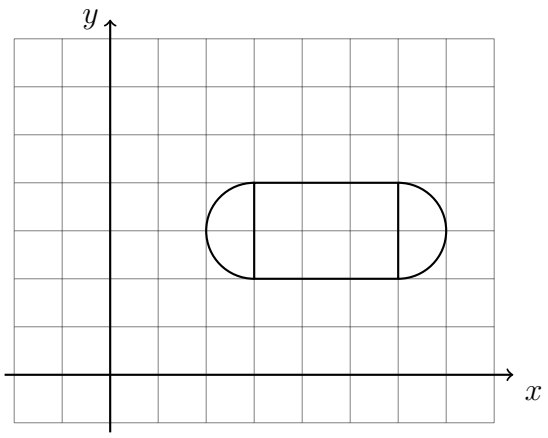
8.7 Do Now: Area, volume, solids, circles review

1. Find the area of the shape shown below composed of a rectangle and circular ends. Leave your answer as an exact value in terms of π.



2. Perform each calculation, writing down the full calculator display and then rounding to the *nearest thousandth*.

   (a) $V = \frac{4}{3}\pi(10.1)^3$

   (b) $P = 2 \times 14.7 + \frac{1}{2}\pi(14.7)^2$

3. Solve each equation for the appropriate variable. Do not round. Simplify radicals.

   (a) $A = \pi r^2 = 20\pi$

   (b) $V = \frac{1}{3}(5.25)^2 h = 147$

Applying density ratios

4. Find the weight of a plastic block with a volume of 50 cubic inches and a density of 0.15 pounds per cubic inch.

5. A propane tank holds 8000 cubic liters. Find the cost to completely fill the tank if propane costs \$0.12 per l^3.

6. A bar of silver is in the shape of a rectangular prism having a length of 15 cm, width of 6 cm, and thickness of 3.5 cm. The density of silver is 12.3 grams per cubic cm, and its approximate market value is \$0.90 per gram.

   (a) Find the weight of the bar of silver.

   (b) Find its value in dollars.

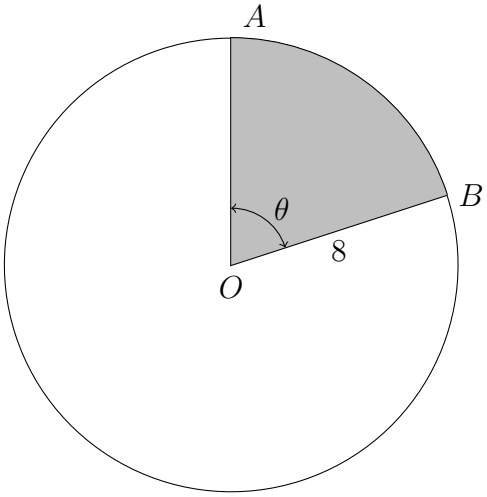
7. A cylinder is 18.3 cm tall and has a volume of 1000 cubic cm. Find the area of the base of the cylinder. Express your result to the *nearest hundredth of a square centimeter*.

8. The sector AOB in circle O has an area of 12.8π. The circle has radius $r = 8$.

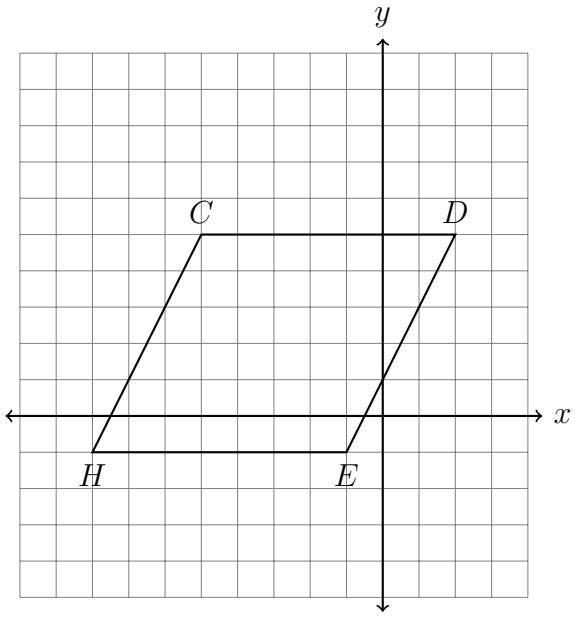
   (a) Find the area of the entire circle O.

   (b) The sector AOB is a portion of the circle. What fraction of the entire circle is it?

   (c) Find the measure of central angle θ.



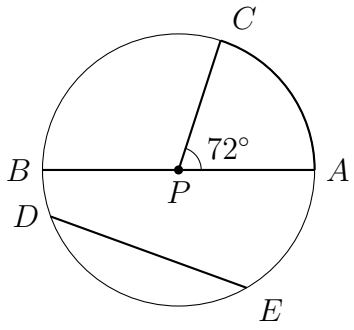
9. The coordinates of the vertices of parallelogram $CDEH$ are $C(-5, 5)$, $D(2, 5)$, $E(-1, -1)$, and $H(-8, -1)$. Find the perimeter of $CDEH$.



Vocabulary self-assessment: Circles (fill in the blank with the correct term)

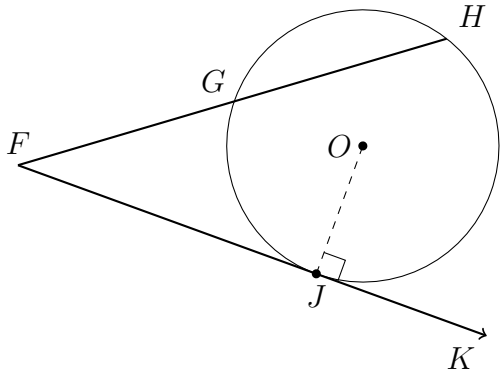
10. **Internal line segments:** Circle with center at point P, as shown.

- $\overline{AB}$ _____
- $\overline{CP}$ _____
- $\overline{DE}$ _____
- $\angle APC$ _____
- $\overset{\frown}{AC}$ _____



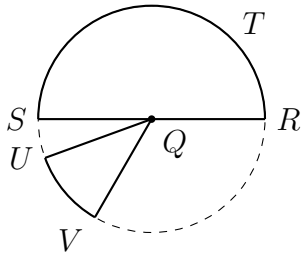
11. **External lines:** Circle with center at point O, at right.

- $\overline{FGH}$ _____
- $\overline{OJ}$ _____
- $\overline{FJK}$ _____
- J _____



12. **Areas:** Circle with center at point Q.

- $\overline{RS}$ _____
- RST _____
- QUV _____



13. **Polygons and angles in circles:**

- $\triangle XYZ$ _____
- $\angle XYZ$ _____