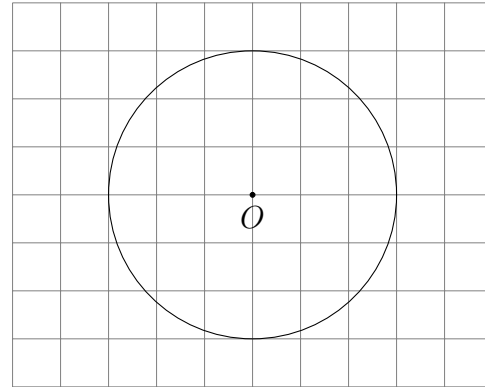## 8.4b Exit Note: Area and volume

1. Use the formulas for the area and circumference of circles:

$$A = \pi r^2$$

$$C = \pi D = 2\pi r$$

2. Given the circle centered at O with radius $r = 3$.

   (a) Find the circumference of a circle.

   (b) Find the area of the circle.


3. Find the radius of a circle having an area of 36π.

   Model the situation with an equation. Use the formula sheet. You must start with a labeling variable. **Do NOT solve!**

4. A large concrete post in the shape of a cylinder has a volume of 250 cubic feet. Its height is 12 feet. Find the radius of the base of the post.

5. A spherical cork fishing net float has a volume of 4000 cubic centimeters. Find its radius.

6. The volume of a cone having a **diameter** of 10 inches is 200 cubic inches. Find the cone's height.

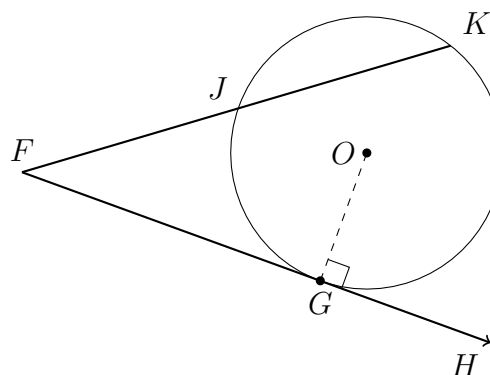**Vocabulary self-assessment: Circles (fill in the blank with the correct term)**

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

   - $\overline{AB}$ _____

   - $\overline{CP}$ _____

   - $\overline{DE}$ _____

   - $\angle DPC$ _____

   - $\overset{\frown}{CD}$ _____
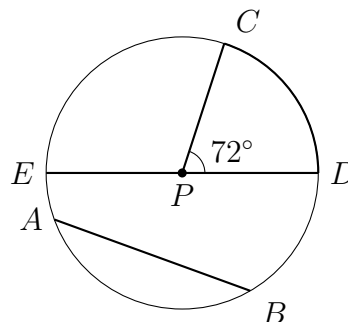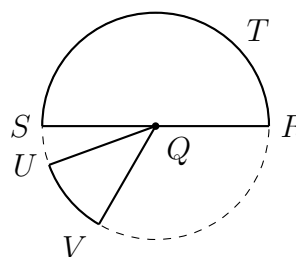
8. **External lines:** Circle with center at point O, at right.

   - $\overline{FGH}$ _____

   - $\overline{OG}$ _____

   - $\overline{FJK}$ _____

   - G _____

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

   - QUV _____

   - $\overline{RS}$ _____

   - RST _____

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

   - $\triangle XYZ$ _____

   - $\angle XYZ$ _____