Given Area of a Sector
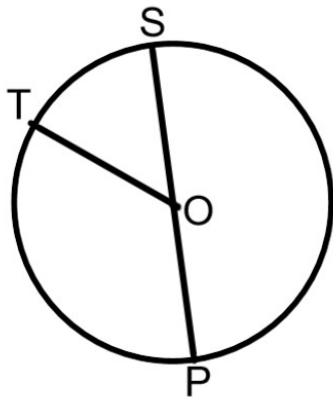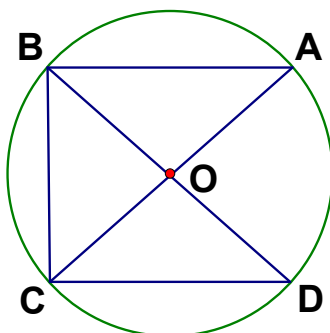
1. In the diagram below of circle O, the area of the shaded sector AOC is 12π in^2 and the length of $\overline{OA}$ is 6 inches. Determine and state m$\angle AOC$.

6 in
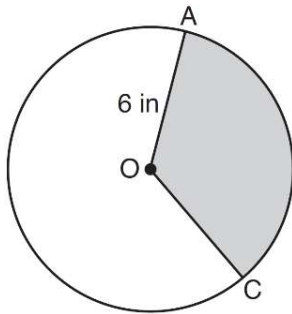
2. In the diagram below of circle O, the area of sector STO is 48π in^2 and the length of $\overline{OP}$ is 12 inches. Determine and state $m\angle SOT$

3. In circle O, diameters $\overline{BOD}$ and $\overline{COA}$ intersect at the center of the circle O. If the area of sector OCD $= 240\pi$ square inches and $m\angle AOD = 80$, find the measure of $\overline{OB}$ to the nearest tenth of an inch.

4. In a circle with a diameter of 32, the area of a sector is $\frac{512\pi}{3}$. The measure of the angle of the sector, in radians, is
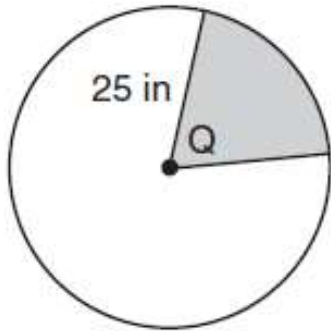
1) $\frac{\pi}{3}$ 3) $\frac{16\pi}{3}$

2) $\frac{4\pi}{3}$ 4) $\frac{64\pi}{3}$

5. In the diagram below, the circle has a radius of 25 inches. The area of the *unshaded* sector is 500π in^2.
Determine and state the degree measure of angle Q, the central angle of the shaded sector.

6. In the diagram below of circle O, the area of the shaded sector LOM is 2π cm^2.
If the length of $\overline{NL}$ is 6 cm, what is $m\angle N$?