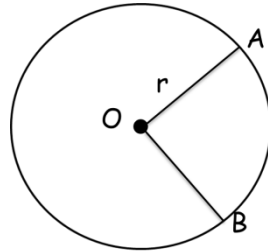**C.O.**: **SWBAT use equations to solve for the lengths of arcs and the area of sectors.**
L.O.: **SWBAT identify arcs and sectors of circle, being able to find the length of arcs and area of sectors.**
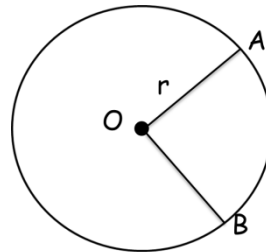
Sectors:
The inside portion of the circle that is bounded by the arc and the radii is called the _____.
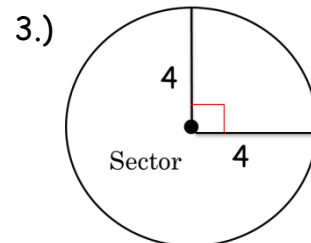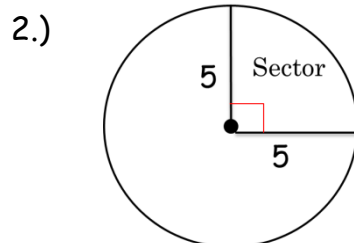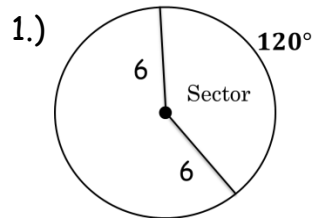There are two sectors, each covered by a specific arc.

Equations for Portions of a Circle: Given the circle with minor arc $\widehat{AB}$,
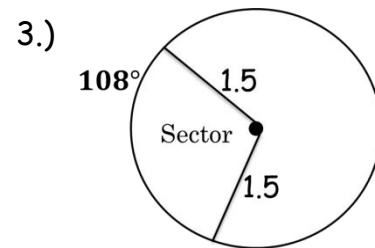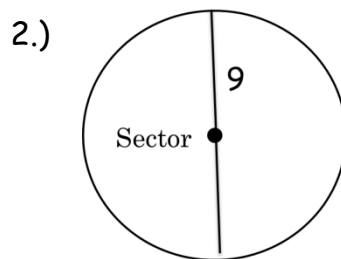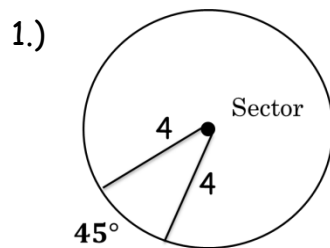Arc Length:

Area of a Sector:

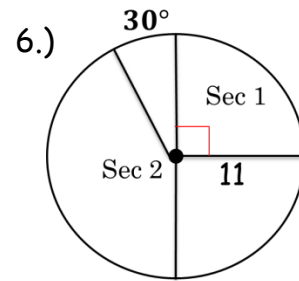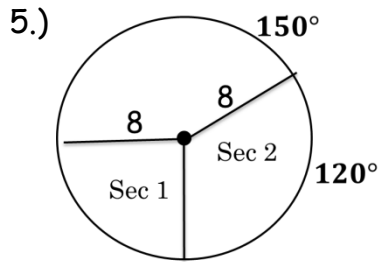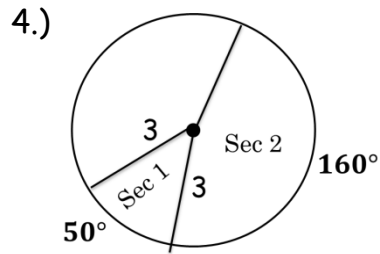**Practice**: Find the arc length and area of each chosen sector.

1.)   120°
6
   Sector
6

2.)   Sector
5
   5

3.)
4
   Sector   4

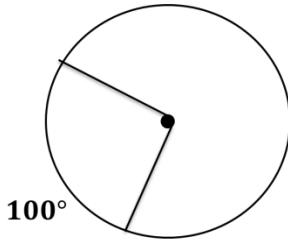**Group Practice**: Find the arc length and area of each sector of the circle.

1.)   Sector
4
   4
45°

2.)   9
   Sector

3.)   108°   1.5
   Sector
   1.5

Find the arc length and area of each chosen sector.

4.)

3

3

Sec 1

Sec 2

160°

50°

5.)

8

8

Sec 1

Sec 2
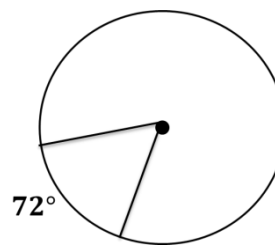
150°

120°

6.)

30°

Sec 1

Sec 2

11

If given the area of the sector, find the radius and the arc length. If given the arc length, find the radius and the area of the sector.
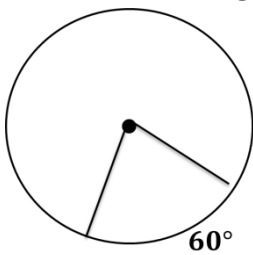
7.) **Given Area of Sector: 10π**

100°

8.) **Given Arc Length: 10π**

72°

9.) **Given Arc Length: 3π**

60°

10.) **Given Area of Sector: $\frac{7}{2}\pi$**

315°