Both of these ideas are basically portions of topics you've covered in middle school: circumferences and areas of circles.

**Arc Length**

Arc : Circle :: Arc Length : Circumference

Formula for the circumference: \( C = 2\pi r \) or \( C = \pi d \).

Formula for an arc length, \( s \), intercepted by central angle \( \theta \): \( s = \frac{2\pi r \theta}{360} \).

1. Find the arc length.
   ![Diagram 1](image1)

2. Find the arc length.
   ![Diagram 2](image2)

3. Find the arc length.
   ![Diagram 3](image3)

4. Find the arc length.
   ![Diagram 4](image4)
5. Find the arc length.
6. Find the arc length.
7. Find the length of the radius.
8. Find the measure of the central angle.

Areas of Sectors

Formula for area of a circle: \( A = \pi r^2 \)

Formula for area of a sector: \( A = \frac{\pi r^2 \theta}{360} \)

9. Find the area of the sector.
10. Find the area of the sector.
11. Find the area of the sector.
12. Find the area of the sector.
13. Find the area of the sector.
14. Find the measure of the central angle.
15. Find the length of the radius.