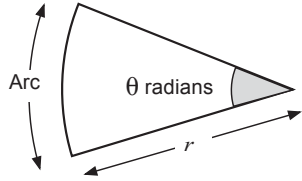


Sectors Of Circles

You may find the following formulas useful:



Arc length: $r\theta$

Area: $\frac{1}{2}r^2\theta$

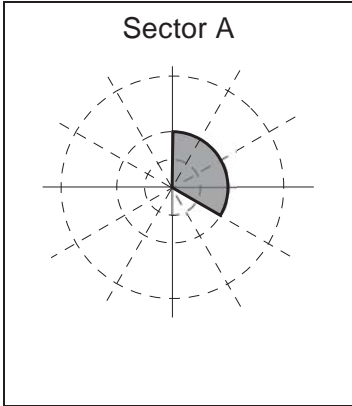
1. The diagram shows three concentric circles. The radii of the inner, middle, and outer circles are 2cm, 4cm and 8cm respectively. The circles are divided into twelve equal angles at the center. A sector of the middle circle is shaded.

a. Find the angle, in radians, of the shaded sector.

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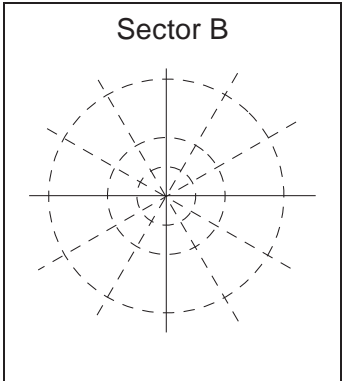
Sector B has the **same arc length** as Sector A, but has a different radius and sector angle.

- b. Shade in Sector B.
Explain how you know it has the **same arc length** as Sector A.

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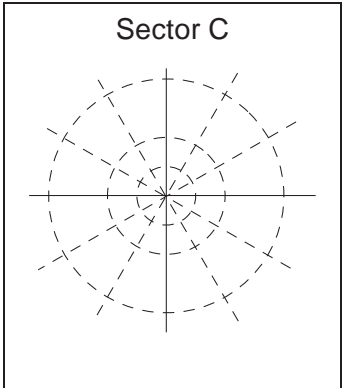
Sector C has the **same area** as Sector A, but a different radius and sector angle.

- c. Shade in Sector C.
Explain how you know it has the **same area** as Sector A.

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2. The radius of Sector D is **half the radius** of Sector E.

The area of Sector D is **half the area** of Sector E.

Shade in possible sectors for D and E.

Show all your work.

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