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| **Notes – Sector Area & Arc Length** | **Name:** | **Th** |
| **Standard:** | **Hour:** |

**Objective:** I know how to calculate arc length and sector area.

Given arc length or sector area, I can find the radius, central angle, total area or circumference.

**Review & Connect**

**Sectors and Arc Length**

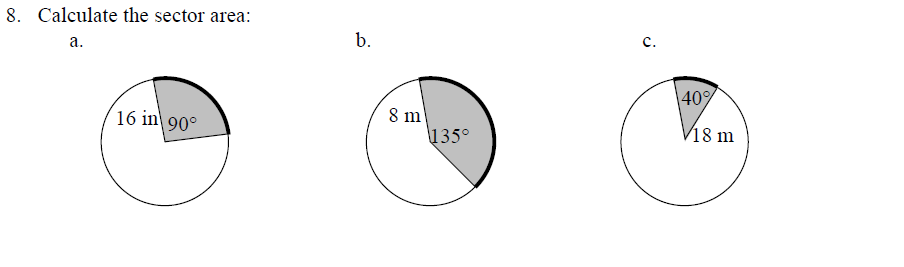
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| Circumference of a Circle  Find the length of arc AB.   |  | | --- | | A  B  A  5cm | | A  B  7cm | | 1. Diameter 12m.   B  120o |  |  | | --- | | 1. Complete the formula for arc length | | 1. Find the arc length of a 288o central angle and a radius of 15. | | Area of a Circle  Find the area of each sector (shaded region).   |  | | --- | | 5cm  A  B  A | | 14cm  A  B | | B  6cm  120o |  |  | | --- | | 1. Write a formula for sector area. | | 1. Find the area of a 288o sector with a radius of 15. | |

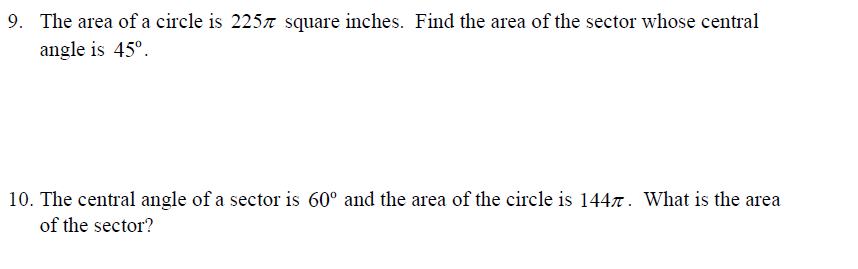
**Examples**

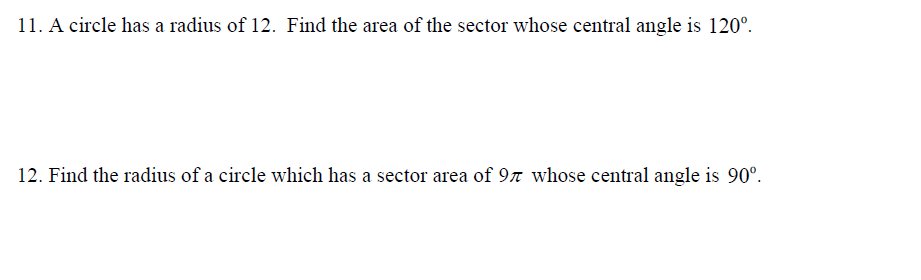
Find each indicated value. Show ALL work! Give answers as an exact value (fractions and in terms of pi).

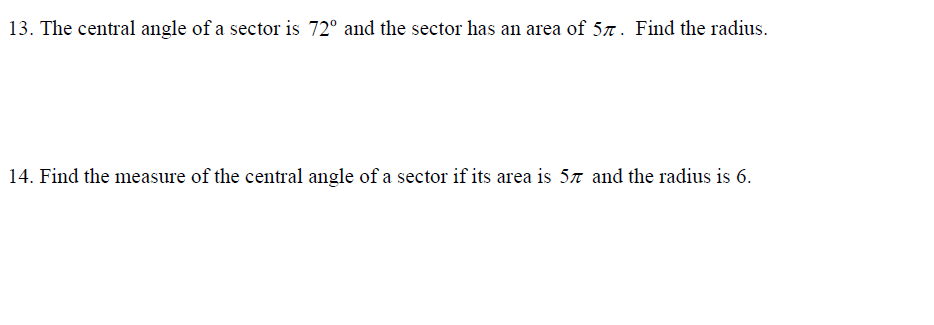
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| 1. Find the area of the sector | 1. Find the area of the sector. |
| 1. Find the area of the shaded sectors. Radius = 24   50ᵒ  40ᵒ | 1. Find the area of the circle if a sector has a central angle of 90ᵒ and an area of km2. |
| 1. Find the radius of the circle if a sector has a central angle of 240ᵒ and a sector area of 150π km2. | 1. The length of minor arc AB is and measures 45.   a) What is the circumference of the circle?  b) What is the measure of the radius of the circle?  c) What is the area of the sector AOB? |

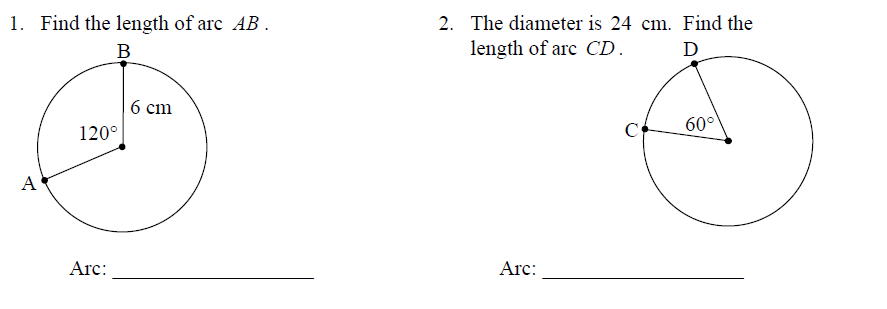
**Hmwk – Sectors Area & Arc Length** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

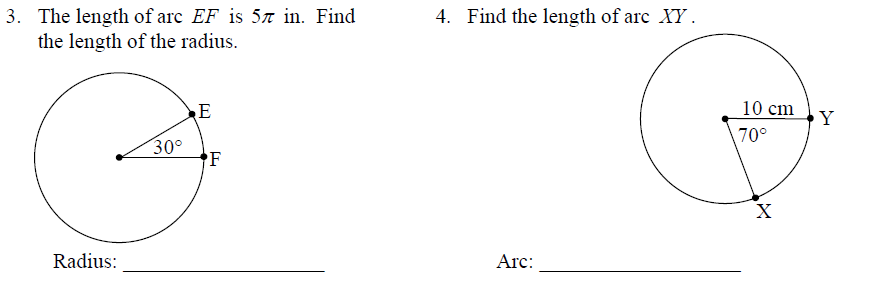


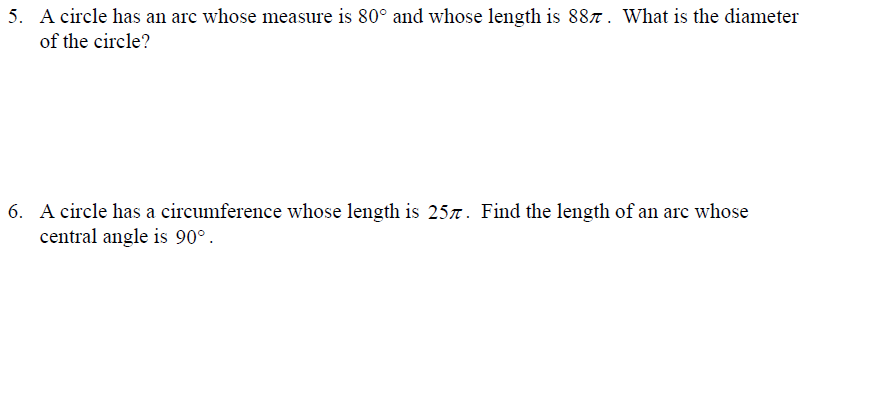












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| 1. Minor arc AB has an arc length of 8π ft and a measure of 60. 2. What is the total circumference? 3. What is the length of the radius? 4. What is the area of sector AOB? |  |
| **16.** Sector AOB has an area of 16π mi2 and a central angle of 40   1. What is the total area? 2. What is the length of the radius? 3. What is the length of minor arc AB? |  |