

Finding Arc Lengths: You Practice:

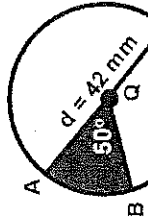
Find the length of the arc where the region is shaded:

$$\text{Arc Length} = \frac{2\pi r\theta}{360}$$

1. 

$$\frac{2\pi(3)(45)}{360}$$

$\frac{3\pi}{4}$ or 2.35617



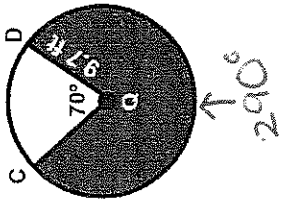
$$\frac{2\pi(21)(50)}{360}$$

$\frac{35\pi}{6}$ or 18.3261

2. 

$$\frac{2\pi(6)(115)}{360}$$

$\frac{23\pi}{6}$ or 12.043 cm



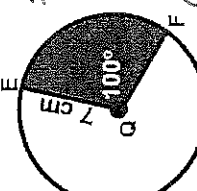
$$\frac{2\pi(9)(70)}{360}$$

43.096 ft

Finding Arc Lengths: You Practice:

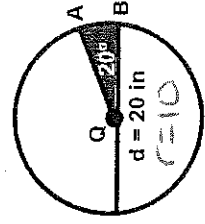
Find the length of the arc where the region is shaded:

$$\text{Arc Len.} = \frac{2\pi r\theta}{360}$$

5. 

$$\frac{2\pi(7)(100)}{360}$$

$\frac{35\pi}{9}$ or 12.217 cm



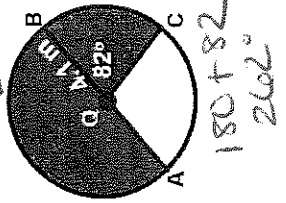
$$\frac{2\pi(10)(20)}{360}$$

$\frac{10\pi}{9}$ or 3.49117

6. 

$$\frac{2\pi(2)(120)}{360}$$

$\frac{8\pi}{3}$ or 8.378 cm



$$\frac{2\pi(4.1)(82)}{360}$$

18.748 m

Sector Area:

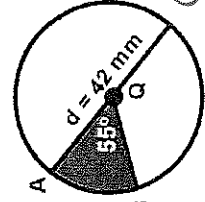
Find the sector area of the shaded region:

$$\text{Area of Sector} = \frac{\pi r^2\theta}{360}$$

1. 

$$\frac{\pi(4)^2(30)}{360}$$

$\frac{32\pi}{9}$ or 11.177 ft²



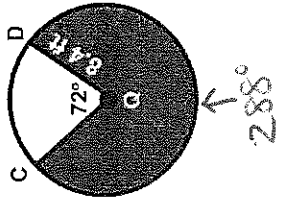
$$\frac{\pi(21)^2(55)}{360}$$

$\frac{539\pi}{8}$ or 211.665 mm²

2. 

$$\frac{\pi(6)^2(135)}{360}$$

$\frac{27\pi}{2}$ or 42.412 cm²



$$\frac{\pi(8.4)^2(288)}{360}$$

177.337 ft²

Sector Area: You Practice:

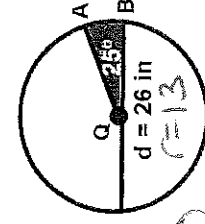
Find the sector area of the shaded region:

$$\text{Area of Sector} = \frac{\pi r^2\theta}{360}$$

5. 

$$\frac{\pi(3)^2(90)}{360}$$

$\frac{9\pi}{4}$ or 7.069 in²



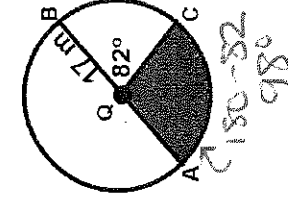
$$\frac{\pi(13)^2(25)}{360}$$

$\frac{545\pi}{72}$ or 36.871 in²

6. 

$$\frac{\pi(5)^2(200)}{360}$$

$\frac{125\pi}{9}$ or 43.633 cm²



$$\frac{\pi(17)^2(98)}{360}$$

$\frac{14161\pi}{180}$ or 247.156 m²