

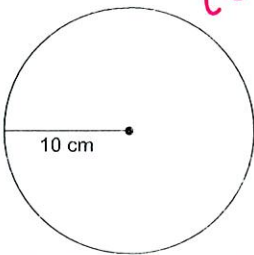
$$C = 2\pi r \text{ or } C = \pi d$$

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

Day 5 Practice - Arc Length and Area of a Sector

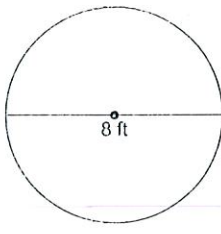
Find the circumference of each circle.

1) $C = 2\pi(10)$



$C = 20\pi \text{ cm}$
or
 62.8 cm

2) $C = \pi 8$



$C = 8\pi \text{ ft}$
or
 25.12 ft

Find the radius of each circle.

3) circumference = $8\pi \text{ mi}$

$8/2 = 4$

$r = 4 \text{ mi}$

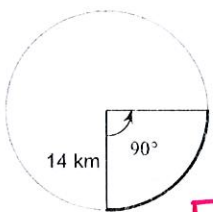
4) circumference = $18\pi \text{ cm}$

$18/2 = 9$

$r = 9 \text{ cm}$

Find the length of each arc.

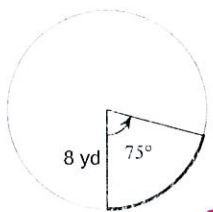
5) $AL = \frac{2\pi(14)(90)}{360}$



$= \frac{2520\pi}{360}$

$7\pi \text{ km or } 21.98 \text{ km}$

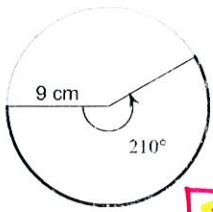
6) $AL = \frac{2\pi(8)(75)}{360}$



$= \frac{1200\pi}{360}$

$\frac{10}{3}\pi \text{ yd or } 10.47 \text{ yd}$

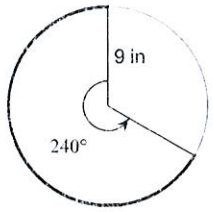
7) $AL = \frac{2\pi(9)(210)}{360}$



$= \frac{3780\pi}{360}$

$\frac{21}{2}\pi \text{ cm or } 32.97 \text{ cm}$

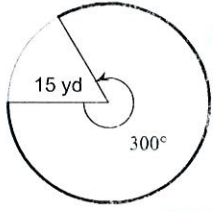
8) $AL = \frac{2\pi(9)(240)}{360}$



$= \frac{4320\pi}{360}$

$12\pi \text{ in or } 37.68 \text{ in}$

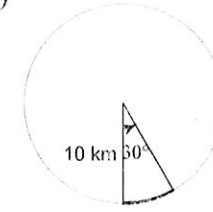
9) $AL = \frac{2\pi(15)(300)}{360}$



$= \frac{9000\pi}{360}$

$25\pi \text{ yd or } 78.5 \text{ yd}$

10) $AL = \frac{2\pi(10)(30)}{360}$



$= \frac{600\pi}{360}$

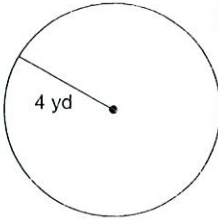
$\frac{5}{3}\pi \text{ km or } 5.23 \text{ km}$

$$A = \pi r^2$$

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

Find the area of each.

11)

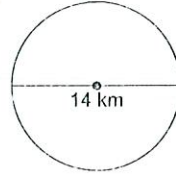


$$A = \pi(4)^2$$
$$A = 16\pi \text{ yd}$$

or

$$50.24 \text{ yd}$$

12)



$$A = \pi(7)^2$$
$$A = 49\pi \text{ km}$$

or

$$153.86 \text{ km}$$

Find the radius of each circle.

13) area = $49\pi \text{ mi}^2$

$$\sqrt{49} = 7$$

$$r = 7 \text{ mi}$$

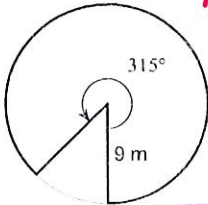
14) area = $16\pi \text{ in}^2$

$$\sqrt{16} = 4$$

$$r = 4 \text{ in}$$

Find the area of each sector.

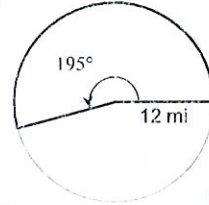
15)



$$AOS = \frac{\pi(9^2)(315)}{360}$$
$$= \frac{25515\pi}{360}$$

$$\frac{567\pi}{8} \text{ m}^2 \text{ or } 222.55 \text{ m}^2$$

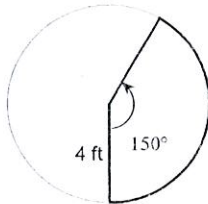
16)



$$AOS = \frac{\pi(12^2)(195)}{360}$$
$$= \frac{28080\pi}{360}$$

$$78\pi \text{ mi}^2 \text{ or } 244.92 \text{ mi}^2$$

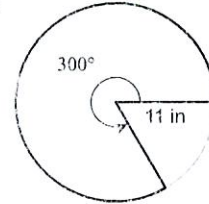
17)



$$AOS = \frac{\pi(4^2)(150)}{360}$$
$$= \frac{2400\pi}{360}$$

$$\frac{20\pi}{3} \text{ ft}^2 \text{ or } 20.93 \text{ ft}^2$$

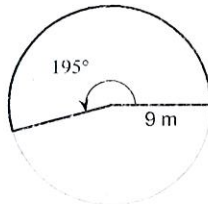
18)



$$AOS = \frac{\pi(11^2)(300)}{360}$$
$$= \frac{36300\pi}{360}$$

$$\frac{605}{6}\pi \text{ in}^2 \text{ or } 316.62 \text{ in}^2$$

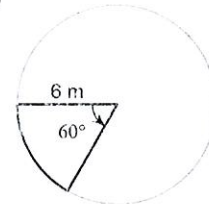
19)



$$AOS = \frac{\pi(9^2)(195)}{360}$$
$$= \frac{15795\pi}{360}$$

$$\frac{351}{8}\pi \text{ m}^2 \text{ or } 137.77 \text{ m}^2$$

20)



$$AOS = \frac{\pi(6^2)(60)}{360}$$
$$= \frac{2160\pi}{360}$$

$$6\pi \text{ m}^2 \text{ or } 18.84 \text{ m}^2$$