

Assignment.

Date _____ Period _____

Find the length of each arc. Exact

1) $r = 6 \text{ yd}, \theta = 315^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(6)(315)}{360} = \frac{21\pi \text{ yds}}{2}$$

or
 $10.5\pi \text{ yds}$

2) $r = 9 \text{ yd}, \theta = 210^\circ$ $AL = \frac{2\pi r \theta}{360}$

$$AL = \frac{2\pi(9)(210)}{360} = \frac{21\pi \text{ yds}}{2} \text{ or } 10.5\pi \text{ yds}$$

3) $r = 12 \text{ ft}, \theta = 225^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(12)(225)}{360} = 15\pi \text{ yds}$$

4) $r = 12 \text{ ft}, \theta = 150^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(12)(150)}{360} = 10\pi \text{ ft}$$

Find the length of each arc. Round your answers to the nearest tenth. Rounded

5) $r = 11 \text{ cm}, \theta = 150^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(11)(150)}{360} = 28.8 \text{ cm}$$

6) $r = 9 \text{ ft}, \theta = 75^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(9)(75)}{360} = 11.8 \text{ ft}$$

7) $r = 10 \text{ cm}, \theta = 120^\circ$

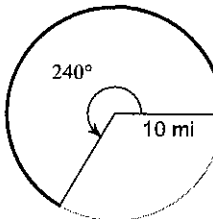
$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(10)(120)}{360} = 20.9 \text{ cm}$$

8) $r = 11 \text{ yd}, \theta = 60^\circ$

$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(11)(60)}{360} = 11.5 \text{ yds}$$

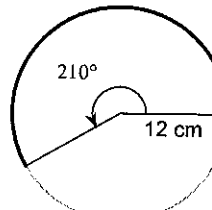
Find the length of each arc. Exact

9)



$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(10)(240)}{360} = \frac{40}{3}\pi \text{ mi}$$

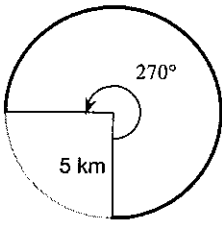
10)



$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(12)(210)}{360} = 14\pi \text{ cm}$$

$6\frac{2}{3}$

11)

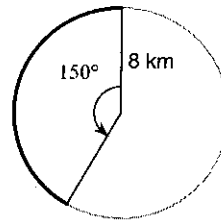


$$AL = \frac{2\pi r \theta}{360}$$

$$AL = \frac{2\pi(5)(270)}{360}$$

$$AL = \frac{15}{2} \pi \text{ km or } 7.5 \pi \text{ km}$$

12)

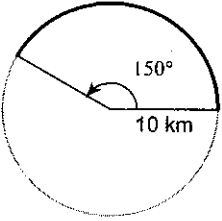


$$AL = \frac{2\pi r \theta}{360} = \frac{2\pi(8)(150)}{360}$$

$$= \frac{20}{3} \pi \text{ km}$$

Find the length of each arc. Round your answers to the nearest tenth. Rounded

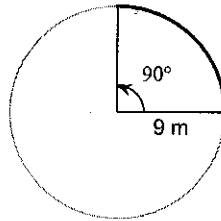
13)



$$AL = \frac{2\pi r \theta}{360}$$

$$AL = \frac{2\pi(10)(150)}{360} = \boxed{21.2 \text{ km}}$$

14)

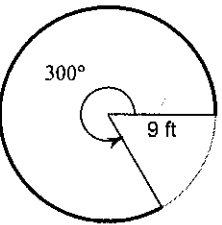


$$AL = \frac{2\pi r \theta}{360}$$

$$AL = \frac{2\pi(9)(90)}{360}$$

$$AL = \boxed{14.1 \text{ m}}$$

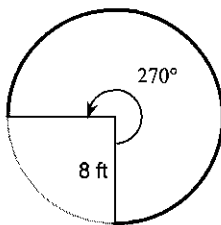
15)



$$AL = \frac{2\pi r \theta}{360}$$

$$AL = \frac{2\pi(9)(300)}{360} = \boxed{47.1 \text{ ft}}$$

16)



$$AL = \frac{2\pi r \theta}{360}$$

$$AL = \frac{2\pi(8)(270)}{360}$$

$$AL = \boxed{37.7 \text{ ft}}$$