

HW: Pages 365-366: 71-89 odd, 92, 95, 99;

Pages 365-366:

In Problems 71–78, s denotes the length of the arc of a circle of radius r subtended by the central angle θ . Find the missing quantity. Round answers to three decimal places.

71. $r = 10$ meters, $\theta = \frac{1}{2}$ radian, $s = ?$
 72. $r = 6$ feet, $\theta = 2$ radians, $s = ?$
 73. $\theta = \frac{1}{3}$ radian, $s = 2$ feet, $r = ?$
 74. $\theta = \frac{1}{4}$ radian, $s = 6$ centimeters, $r = ?$
 75. $r = 5$ miles, $s = 3$ miles, $\theta = ?$
 76. $r = 6$ meters, $s = 8$ meters, $\theta = ?$
 77. $r = 2$ inches, $\theta = 30^\circ$, $s = ?$
 78. $r = 3$ meters, $\theta = 120^\circ$, $s = ?$

In Problems 79–86, A denotes the area of the sector of a circle of radius r formed by the central angle θ . Find the missing quantity. Round answers to three decimal places.

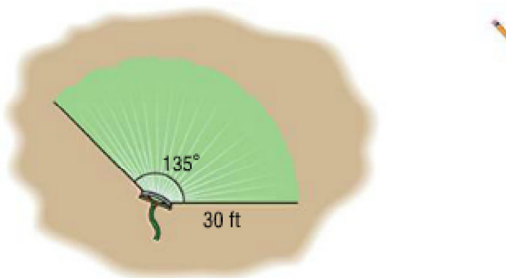
79. $r = 10$ meters, $\theta = \frac{1}{2}$ radian, $A = ?$
 80. $r = 6$ feet, $\theta = 2$ radians, $A = ?$
 81. $\theta = \frac{1}{3}$ radian, $A = 2$ square feet, $r = ?$
 82. $\theta = \frac{1}{4}$ radian, $A = 6$ square centimeters, $r = ?$
 83. $r = 5$ miles, $A = 3$ square miles, $\theta = ?$
 84. $r = 6$ meters, $A = 8$ square meters, $\theta = ?$
 85. $r = 2$ inches, $\theta = 30^\circ$, $A = ?$
 86. $r = 3$ meters, $\theta = 120^\circ$, $A = ?$

In Problems 87–90, find the length s and area A . Round answers to three decimal places.



92. **Movement of a Pendulum** A pendulum swings through an angle of 20° each second. If the pendulum is 40 inches long, how far does its tip move each second? Round answers to two decimal places.

95. **Watering a Lawn** A water sprinkler sprays water over a distance of 30 feet while rotating through an angle of 135° . What area of lawn receives water?



99. **Bicycle Wheels** The diameter of each wheel of a bicycle is 26 inches. If you are traveling at a speed of 35 miles per hour on this bicycle, through how many revolutions per minute are the wheels turning?

