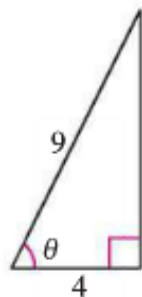


Complete the ALL the following problems:

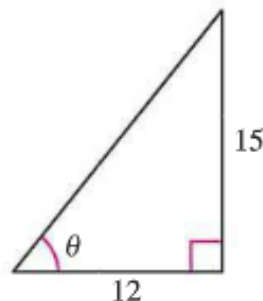
36. **Geometry** Find the radian measure of the central angle of a circle with a radius of 60 inches that intercepts an arc of length 245 inches.
37. **Geometry** Find the length of the arc on a circle with a radius of 20 meters intercepted by a central angle of 138° .
39. **Finding Linear Speed** The radius of a compact disc is 6 centimeters. Find the linear speed of a point on the circumference of the disc if it is rotating at a speed of 500 revolutions per minute.
40. **Finding Angular Speed** A car is moving at a rate of 28 miles per hour, and the diameter of its wheels is about $2\frac{1}{3}$ feet.
- (a) Find the number of revolutions per minute the wheels are rotating.
- (b) Find the angular speed of the wheels in radians per minute.

Evaluating Trigonometric Functions In Exercises 69–76, find the exact values of the six trigonometric functions of the angle θ .

69.



70.



84. **Architecture** An escalator 152 feet in length rises to a platform and makes a 30° angle with the ground.
- (a) Draw a right triangle that gives a visual representation of the problem. Show the known quantities and use a variable to indicate the height of the platform above the ground.
- (b) Use a trigonometric function to write an equation involving the unknown quantity.
- (c) Find the height of the platform above the ground.