Extra Practice – Word Problems Section 4.1

1. On a circle of radius 24 in, find the arc length if the central angle is
2. radians b. c. 75°
3. Find the radius of a circle for an arc 15 in long and central angle of
4. 1 radian b. 20°
5. A flywheel of radius 10 cm is turning at the rate 900rpm. How fast does a point on the rim travel in meters per second?
6. Calculate the angular speed in radians per minute of a Ferris wheel 208 ft in diameter that takes 25 seconds to rotate once. If you sat on the rim of the Ferris wheel, what would your linear speed be, to the nearest foot per minute?
7. A bicycle has 27-in diameter wheels. A cyclist turns the wheels at 4 revolutions per second as she rides.
8. Give the angular speed of the wheel in radians per second.
9. Give the linear speed of a point on the rim.
10. How many revolutions per second must the wheels turn for the cyclist to riding 25 mph?

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