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Determine each angular displacement in radians. Round to the nearest tenth.

13. 3 revolutions **18.8 radians**

Determine each angular velocity. Round to the nearest tenth.

19. 1.8 revolutions in 9 seconds **1.3 radians/s**

25. A Ferris wheel rotates one revolution every 50 seconds. What is its angular velocity in radians per second? **about 0.1 radian/s**

26. A clothes dryer is rotating at 500 revolutions per minute. Determine its angular velocity in radians per second. **about 52.4 radians/s**

Determine the linear velocity of a point rotating at the given angular velocity at a distance  $r$  from the center of the rotating object. Round to the nearest tenth.

29.  $\omega = 27.4$  radians per second,  $r = 4$  feet **109.6 ft/s**

34. A pulley is turned  $120^\circ$  per second.

a. Find the number of revolutions per minute (rpm). **20 rpm**

b. If the radius of the pulley is 5 inches, find the linear velocity in inches per second. **about 10.5 in./s**

36. **Entertainment** The diameter of a Ferris wheel is 80 feet.

a. If the Ferris wheel makes one revolution every 45 seconds, find the linear velocity of a person riding in the Ferris wheel. **about 5.6 ft/s**

b. Suppose the linear velocity of a person riding in the Ferris wheel is 8 feet per second. What is the time for one revolution of the Ferris wheel? **about 31 s**