NAME _____ DATE _____ PERIOD _____

Practice

Linear and Angular Velocity

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

1. 6 revolutions

2. 4.3 revolutions

3. 85 revolutions

4. 11.5 revolutions

5. 7.7 revolutions

6. 17.8 revolutions

Determine each angular velocity. Round to the nearest tenth.

7. 2.6 revolutions in 6 seconds

8. 7.9 revolutions in 11 seconds

9. 118.3 revolutions in 19 minutes

10. 5.5 revolutions in 4 minutes

11. 22.4 revolutions in 15 seconds

12. 14 revolutions in 2 minutes

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.

13. $\omega = 14.3$ radians per second, $r = 7$ centimeters

14. $\omega = 28$ radians per second, $r = 2$ feet

15. $\omega = 5.4\pi$ radians per minute, $r = 1.3$ meters

16. $\omega = 41.7\pi$ radians per second, $r = 18$ inches

17. $\omega = 234$ radians per minute, $r = 31$ inches

18. ***Clocks*** Suppose the second hand on a clock is 3 inches long. Find the linear velocity of the tip of the second hand.

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