C.A.T.
Sec 3.4 Worksheet
Conversions

Key

Name:_____
Date:_____ **Per:**_____

I. Find each product. Be sure to indicate the units for the answer. Round approximate answers to the nearest tenth.

1. $\frac{300\ rad}{1hr} \cdot \frac{1hr}{60\ min}$ **1.** 5 rad/min

2. $\frac{10\ rad}{1\ min} \cdot \frac{1\ rev}{2\pi rad} \cdot \frac{60min}{1hr}$ **2.** 95.5 rev/hr

3. $\frac{4400\ rev}{45\ sec} \cdot \frac{0.87\ ft}{1\ rev} \cdot \frac{1\ yd}{3\ ft}$ **3.** 28.4 yd/sec

II. Perform each conversion. Leave in terms of π if necessary.

4. 30 rev/min = _____rad/min **4.** 60π rad/min

5. 60 rev/min = _____rad/sec **5.** 2π rad/sec

6. 120 rev/hr = _____rev/min **6.** 2 rev/min

7. 150 rev/sec = _____rev/hr **7.** 540,000 rev/hr

8. 180 rev/sec = _____rad/hr **8.** 1,296,000π rad/hr

9. 300 rad/hr = _____rev/sec **9.** 1/24π rev/sec

10. 30 mi/hr = _____ft/sec **10.** 44 ft/sec

III. A windmill is used for generating electricity; depending on the wind, it rotates at various velocities. In each case, find the angular velocity in rad/sec for the tip of the blade. (Hint: use conversions). Round to the nearest tenth.

11. 500 rev/sec **11.** 3,141.6 rad/sec

12. 433.2 rev/min **12.** 45.4 rad/sec

13. 11,000 rev/hr **13.** 19.2 rad/sec

14. 50,000 rev/day **14.** 3.6 rad/sec

15. 999,000 rev/mo **15.** 2.4 rad/sec