

Convert the given radian measure to degrees.

1. $\frac{4\pi}{5}$

2. $\frac{\pi}{15}$

Convert the given degree measure to radians.

3. -105°

4. 200°

A saw blade with a diameter of 8 inches spins at 2000 rpm.
Find the following (**exact** answers):

5. Angular velocity in *rad/sec*

6. Linear velocity of the tip of the blade in *ft/sec*

The terminal side of an angle in standard position passes through the given point. Give the **exact** value of all 6 trig ratios.

7. $(-4, 6)$

8. $(\sqrt{3}, \sqrt{13})$

Find the exact values for the following trig functions

9. $\sin \frac{4\pi}{3}$

10. $\cos \frac{3\pi}{4}$

11. $\tan 330^\circ$

12. $\csc \frac{\pi}{2}$

13. $\sec 600^\circ$

14. $\cot \pi$

Use basic identities and algebra to simplify the expressions

15. $\frac{\cos^2 x - 1}{\sec x} \cdot \tan x$

16. $\frac{\sec x}{\sin x} - \frac{\sec x}{\csc x}$

Bonus. Simplify the following: $\frac{1}{2} \left(\frac{\sin x}{1 - \cos x} - \frac{1 - \cos x}{\sin x} \right)$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

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8. _____

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9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

Bonus _____