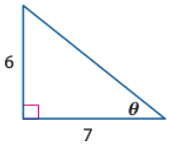
Pre – Calculus
REVIEW 4.1 – 4.3

Name _____

$s = r\theta$ $\quad A = \frac{1}{2}r^2\theta$

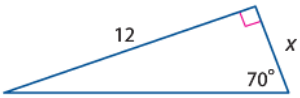
Find the **exact values** (no decimals) of the six trigonometric functions of θ.

1.

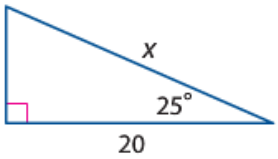


For numbers 2 and 3, find the value of *x*. Round to the nearest tenth if necessary.

2.



3.



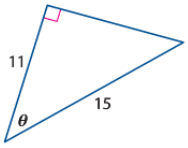
4. A pine tree casts a shadow that is 7.9 feet long when the sun is at an angle of elevation of 80°.

a) Find the height of the tree. Round to the nearest tenth.

b) Later that same day, a person 6 feet tall casts a shadow of 6.7 feet long. What is the angle of elevation of the sun? Round to the nearest degree.

Find the measure of angle θ. Round to the nearest degree if necessary.

5.



6. Convert the angle measure into degrees or radians.

a) $\frac{2\pi}{9}$

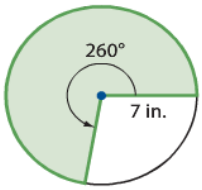
b) 135°

For numbers 7 and 8, find one positive and one negative angle coterminal with the given angle.

7. $\frac{5\pi}{6}$

8. –60°

9. a) Find the approximate area of the shaded region that has a central angle of 260°. Round to the nearest tenth.



b) Find the length of the of arc of the shaded region that has a central angle of 260°. Round to the nearest tenth.

For numbers 10 and 11, sketch the angle and determine the reference angle.

10. 175°

11. $\frac{10\pi}{3}$

For numbers 14 – 21, find the **exact value** of the expression. If undefined, write *undefined*. Remember to NOT use your unit circle or calculator. ☺

12. cos 315°

13. sec $\frac{3\pi}{2}$

14. sin $\frac{5\pi}{3}$

15. tan $\frac{5\pi}{6}$

16. csc 225°

17. cot 150°

18. cos $\left(-\frac{\pi}{4}\right)$

19. sin π

20. Find the exact values of the five remaining trigonometric functions of θ.
cos $\theta = -\frac{2}{5}$, where sin $\theta < 0$ and tan $\theta > 0$

21. Let (–5, 12) be a point on the terminal side of an angle θ in standard position. Find the exact values of the six trigonometric functions of θ.