

Pre-Calculus AB
Review Chapter 6.1-6.3

Name _____
 Period _____

Use your calculator to find the following and round to **four** decimal places:

1. $\sec 42^\circ =$ _____ 2. $\csc 78^\circ =$ _____ 3. $\cot 102^\circ =$ _____

Write the DMS degree in **decimal form**:

4. $17^\circ 25' 36''$

Write the decimal degree in **DMS form**:

5. 71.025°

Write the DMS degree in **decimal form**:

6. $26^\circ 7' 10''$

Write the decimal degree in **DMS form**:

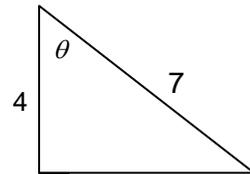
7. -25.36°

8. Find the **6 trig functions** of θ for the given triangle

$\sin \theta =$ _____ $\csc \theta =$ _____

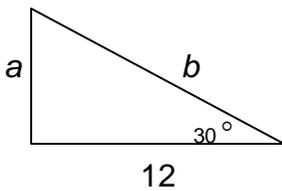
$\cos \theta =$ _____ $\sec \theta =$ _____

$\tan \theta =$ _____ $\cot \theta =$ _____



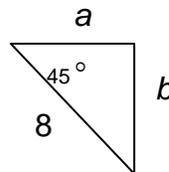
Find the **exact value** of the missing sides:

9.



$a =$ _____ $b =$ _____

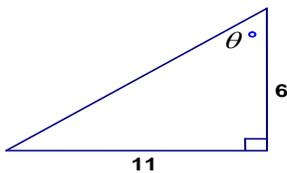
10.



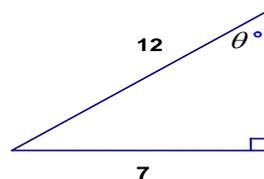
$a =$ _____ $b =$ _____

Find the angle θ in **degrees**:

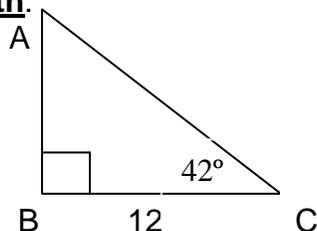
11.



12.

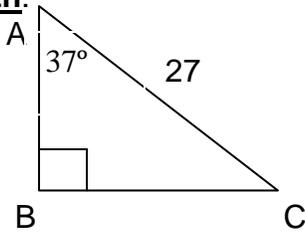


13. Solve the following right triangle. Round angles to the **nearest degree** and sides to the nearest **tenth**:



$\angle A =$ _____ $b =$ _____ $c =$ _____

14. Solve the following right triangle. Round angles to the **nearest degree** and sides to the nearest **tenth**:



$$\angle C = \underline{\hspace{2cm}} \quad a = \underline{\hspace{2cm}} \quad c = \underline{\hspace{2cm}}$$

15. From the top of a lighthouse, at a height of 100 feet above sea level, the angle of depression to a sailboat adrift on the water is 21° . How far from the foot of the lighthouse is the sailboat? (Draw a picture)

16. The Ohio Turnpike has a maximum uphill slope of 6° . How long must a straight uphill segment of the road be in order to allow a vertical rise of 450 feet? (Draw a picture)

Find one positive and one negative angle **coterminal** to the given angle:

17. $-\frac{13\pi}{7}$

18. -330°

Convert the given radian measure to **degrees**:

Convert the given degree measure to **radians**.
(Leave your answer in terms of π)

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

20. -72°

Convert the given radian measure to **degrees**:

Convert the given degree measure to **radians**.
(Leave your answer in terms of π)

21. $-\frac{9\pi}{4}$

22. 325°

Use the **arc length formula** for the following:

23. The second hand on a clock is 6 inches long. How far does its tip travel in 1 minute and 45 seconds?

24. Find the angle when the radius is 9, and the arc length is 42π ?