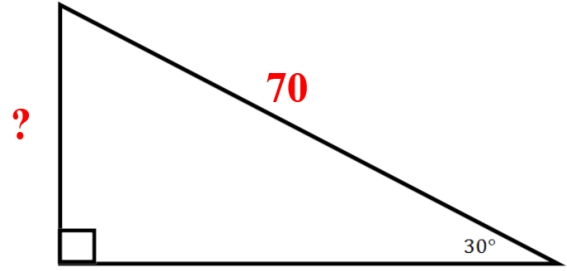
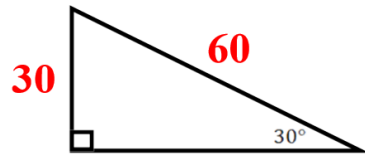


# 9.1 Intro to Trigonometry

## ALGEBRA 2

Write your questions here!

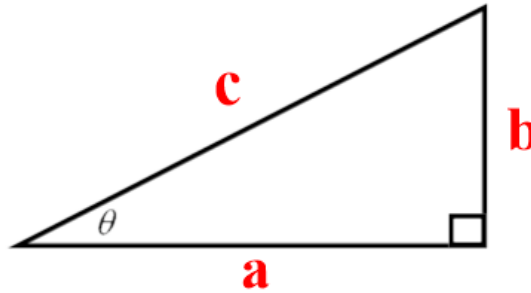


### Basic Trigonometric Functions

$\sin(\theta) =$

$\cos(\theta) =$

$\tan(\theta) =$

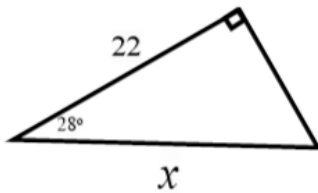


$\sin =$

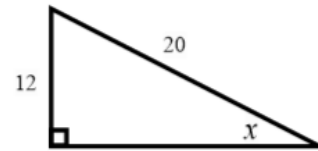
$\cos =$

$\tan =$

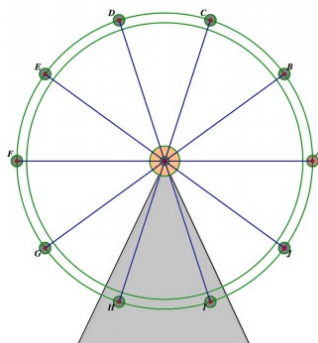
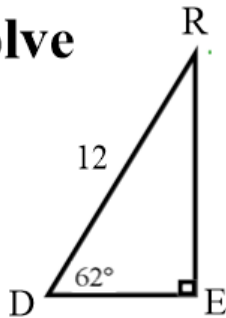
Find missing side.



Find missing angle.



Solve

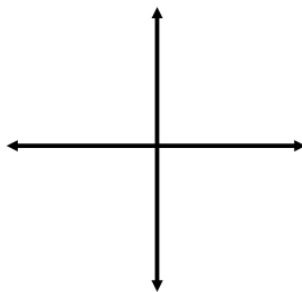


## Angle Terminology

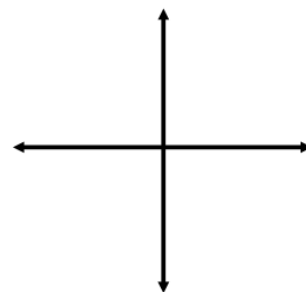
Angle



Standard Position

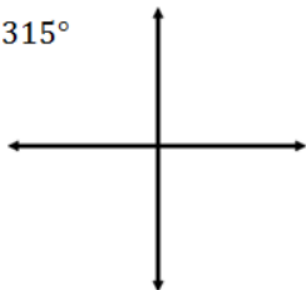


Quadrants

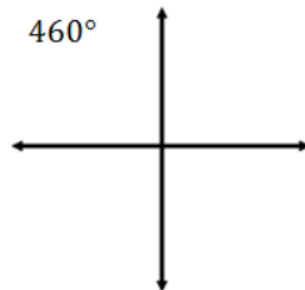


## Draw some angles!

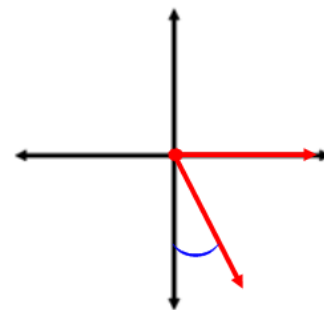
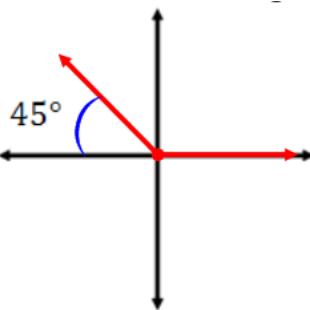
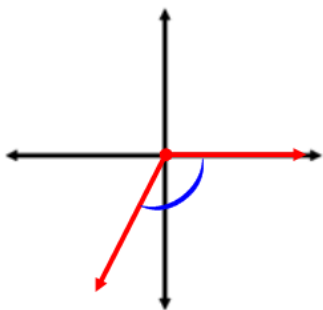
$315^\circ$



$460^\circ$

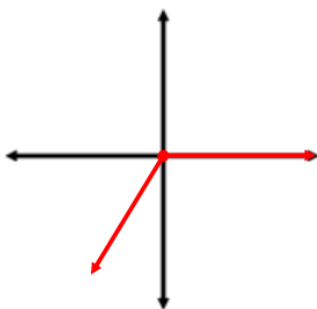


## Name some angles!

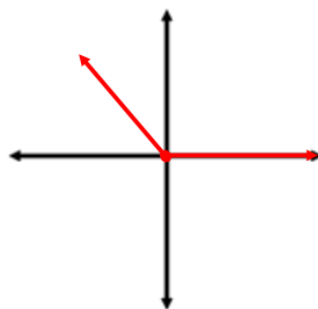


## Coterminal Angles -

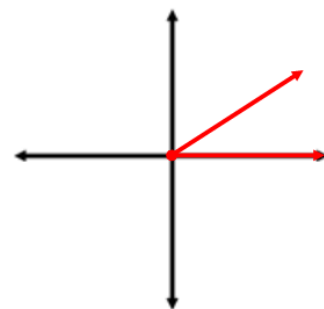
between 0 and 360



one positive,  
one negative



all coterminal

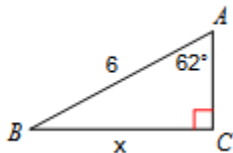


## SUMMARY:

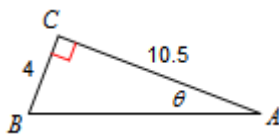
Now,  
summarize  
your notes  
here!

Find the measure of the indicated side or angle. Round to the nearest hundredth.

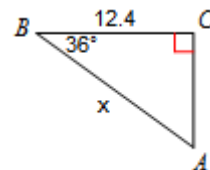
1.



2.

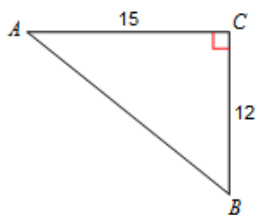


3.

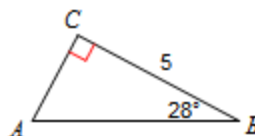


Solve each triangle. Round to the nearest hundredth.

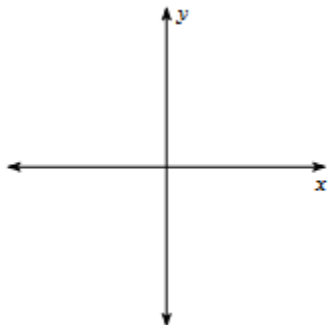
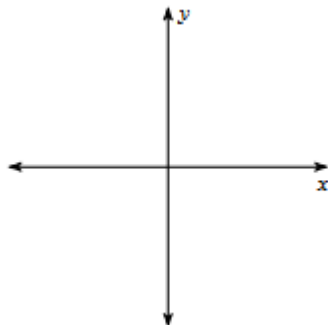
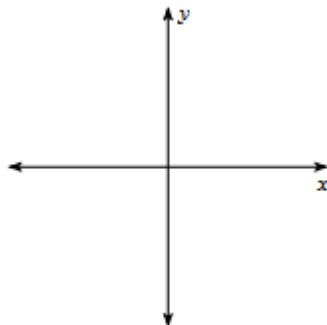
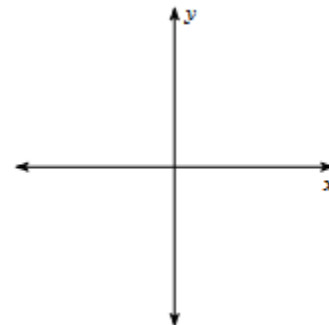
4.



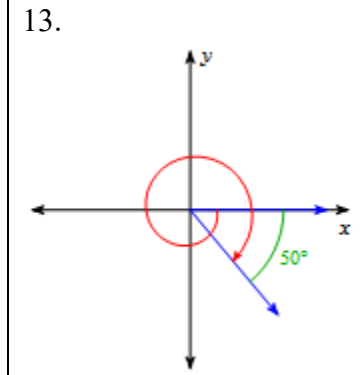
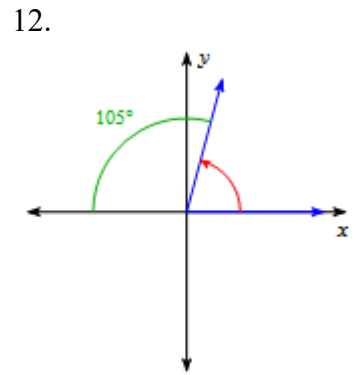
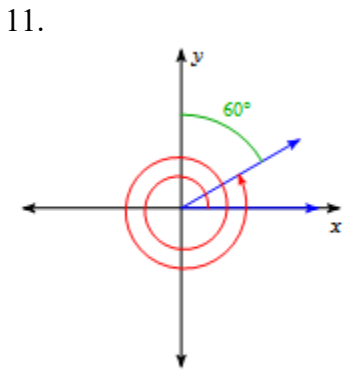
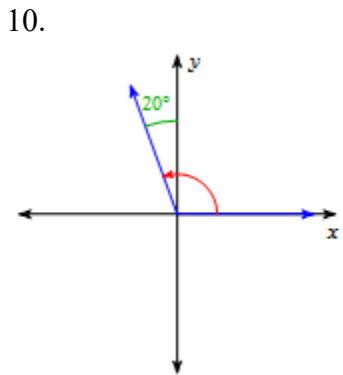
5.



Draw an angle with the given measure in standard position.

6.  $330^\circ$ 7.  $-115^\circ$ 8.  $-290^\circ$ 9.  $440^\circ$ 

**Find the measure of each angle.**



**State the quadrant in which the terminal side of each angle lies.**

14.  $-446^\circ$

15.  $870^\circ$

16.  $-190^\circ$

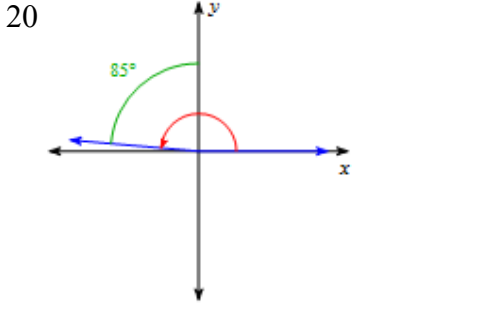
17.  $215^\circ$

**Find a coterminal angle between  $0^\circ$  and  $360^\circ$ .**

18.  $-45^\circ$

19.  $435^\circ$

**Find ALL coterminal angles.**



21.  $-200^\circ$

22.  $90^\circ$

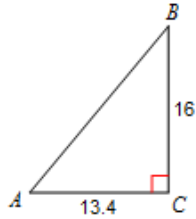
**Solve the following.**

23.  $2x^2 - 3x = 9$

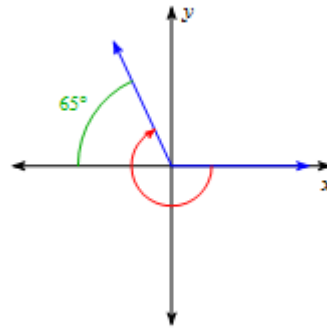
24.  $200 = 10(b)^{12}$

25.  $200 = 10(2)^{2t}$

1. Solve the triangle.



2. Name ALL coterminal angles.

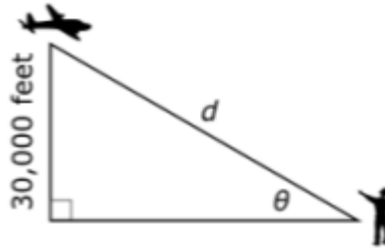


3. An airplane is flying at an altitude of 30,000 feet. The distance,  $d$ , in feet, from an observer on the ground to the plane is a function of the angle of elevation,  $\theta$ , defined as the acute angle between the ground and the line between the observer and the plane, as shown in the figure.

#### PART A

Which equation gives  $d$  as a function  $\theta$  ?

- A.  $d(\theta) = \frac{30,000}{\sin \theta}$
- B.  $d(\theta) = \frac{\sin \theta}{30,000}$
- C.  $d(\theta) = \frac{30,000}{\cos \theta}$
- D.  $d(\theta) = \frac{\cos \theta}{30,000}$



#### PART B

Within the context of the situation described, what is the domain of the function  $d$  ?

Enter the appropriate values, in degrees, in the inequality.

$$\boxed{\phantom{00}}^\circ < \theta < \boxed{\phantom{00}}^\circ$$

#### PART C

When the angle of elevation is 75 degrees, what is the distance between the observe and the plane, to the nearest foot?

Enter your answer in the box.

feet

#### PART D

For what value of  $\theta$  will the distance between the observer and the plane be 60,000 feet?

Enter your answer in the box.

degrees