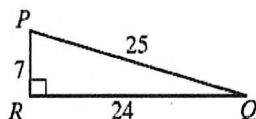


Trig Functions

Day 1

In right triangle PQR , $\angle R$ is a right angle, $PQ = 25$, $QR = 24$, and $PR = 7$. Find the exact value of each trigonometric ratio.

a. $\sin P$ b. $\cos P$ c. $\tan P$ d. $\sin Q$ e. $\cos Q$ f. $\tan Q$

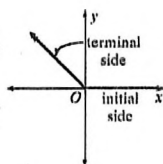


Nov 23-10:36 AM

Angles and Arcs

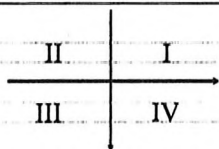
The fixed ray along the x-axis is called the **initial side of an angle**.

The ray at which the rotation ends is called the **terminal side of an angle**.

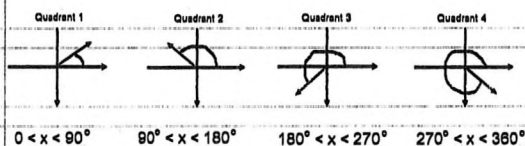


An angle with its vertex at the origin and its initial side along the positive x-axis is in **standard position**.

Nov 24-10:08 AM



Angles in standard position are classified according to the quadrant in which the terminal side lies.



Nov 24-10:46 AM

Name the quadrant in which the angle lies:

1) 25°

2) 200°

3) -75°

4) -280°

5) 750°

6) 450°

Nov 24-10:46 AM



$\angle DOC = 300^\circ$

Is there another angle that shares the same terminal side?

Nov 29-10:13 AM

Find the coterminal angle:

1) 150°

2) 870°

Which two are coterminal angles:

a) 140 and -140

b) 30 and -330

c) 40 and 320

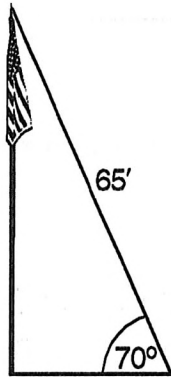
Nov 29-10:13 AM

Name: _____

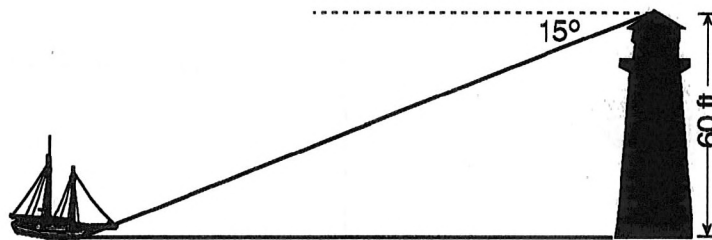
Day 1 Classwork/ Homework

- 1) Which of the following angles is coterminal with 825° ?
A) 75° C) 625°
B) 105° D) 365°
- 2) Sketch 135° in standard position.
- 3) Sketch 210° in standard position.
- 4) In which quadrant does the angle 125° lie?
- 5) In which quadrant does the angle 79° lie?
- 6) In which quadrant does the angle 112° lie?
- 7) In which quadrant does the angle 274° lie?
- 8) In which quadrant does the angle 400° lie?
- 9) In which quadrant does the angle -260° lie?
- 10) In which quadrant does the angle -165° lie?
- 11) Are 120° and -240° coterminal?
- 12) Are 180° and -540° coterminal?
- 13) Are 60° and -330° coterminal?

- 14) As shown in the accompanying diagram, a wire 65 feet long extends from the top of a vertical pole to level ground and makes an angle of 70° with the ground. Find, to the nearest foot, the height of the pole.

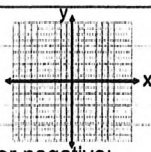


- 15) As shown in the accompanying diagram, a ship at sea is sighted from the top of a 60-foot lighthouse. If the angle of depression of the ship from the top of the lighthouse measures 15° , find, to the nearest foot, how far the ship is from the base of the lighthouse.



- 16) Find to the nearest foot the height of a building that casts a shadow of 80 feet when the angle of elevation of the sun is 42° .

Day 2



Fill in the blanks with the word positive or negative:

1. In quadrant I x is _____ and y is _____.
2. In quadrant II x is _____ and y is _____.
3. In quadrant III x is _____ and y is _____.
4. In quadrant IV x is _____ and y is _____.

Nov 30-9:42 AM

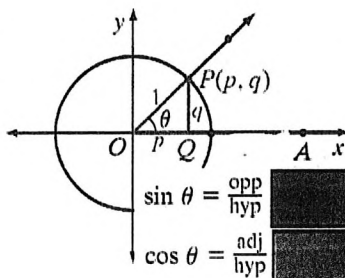
Warm Up continued...

A 20-foot ladder leaning against a vertical wall reaches to a height of 16 feet. Find the sine, cosine, and tangent values of the angle that the ladder makes with the ground.

From a point on the ground that is 100 feet from the base of a building, the tangent of the angle of elevation of the top of the building is $\frac{5}{3}$. To the nearest foot, how tall is the building?

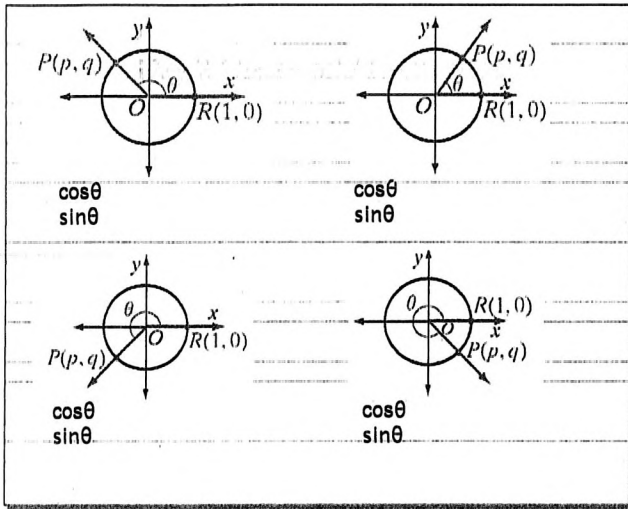
Nov 30-9:21 PM

A circle with center at the origin and radius 1 is called the unit circle. Let θ be the measure of the central angle in standard position.

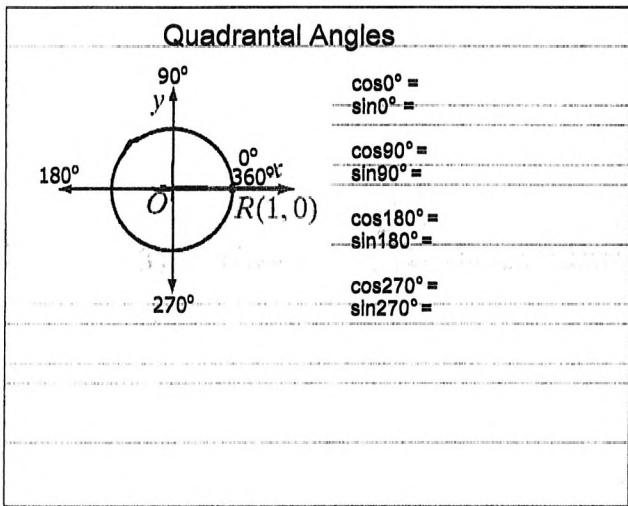


Therefore, the coordinates of P are $(\cos \theta, \sin \theta)$

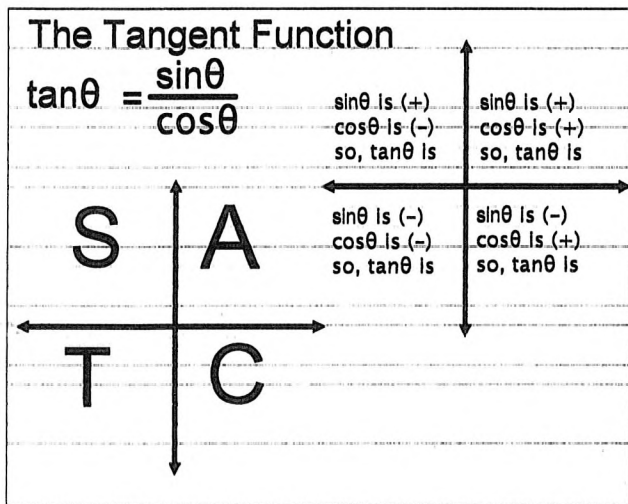
Nov 30-10:15 AM



Nov 30-10:27 AM



Nov 30-1:55 PM



Nov 30-9:08 PM

In 3–10, the terminal side of $\angle ROP$ in standard position intersects the unit circle at P . If $m\angle ROP$ is θ , find: a. $\sin \theta$ b. $\cos \theta$ c. the quadrant of $\angle ROP$

3. $P\left(\frac{3}{5}, \frac{4}{5}\right)$

In 11–14, for each of the following function values, find θ if $0^\circ \leq \theta < 360^\circ$.

14. $\sin \theta = 0$,
 $\cos \theta = -1$

In 21–26, if θ is the measure of $\angle AOB$, an angle in standard position, name the quadrant in which the terminal side of $\angle AOB$ lies.

21. $\sin \theta > 0$, $\cos \theta > 0$

Nov 30-8:57 PM

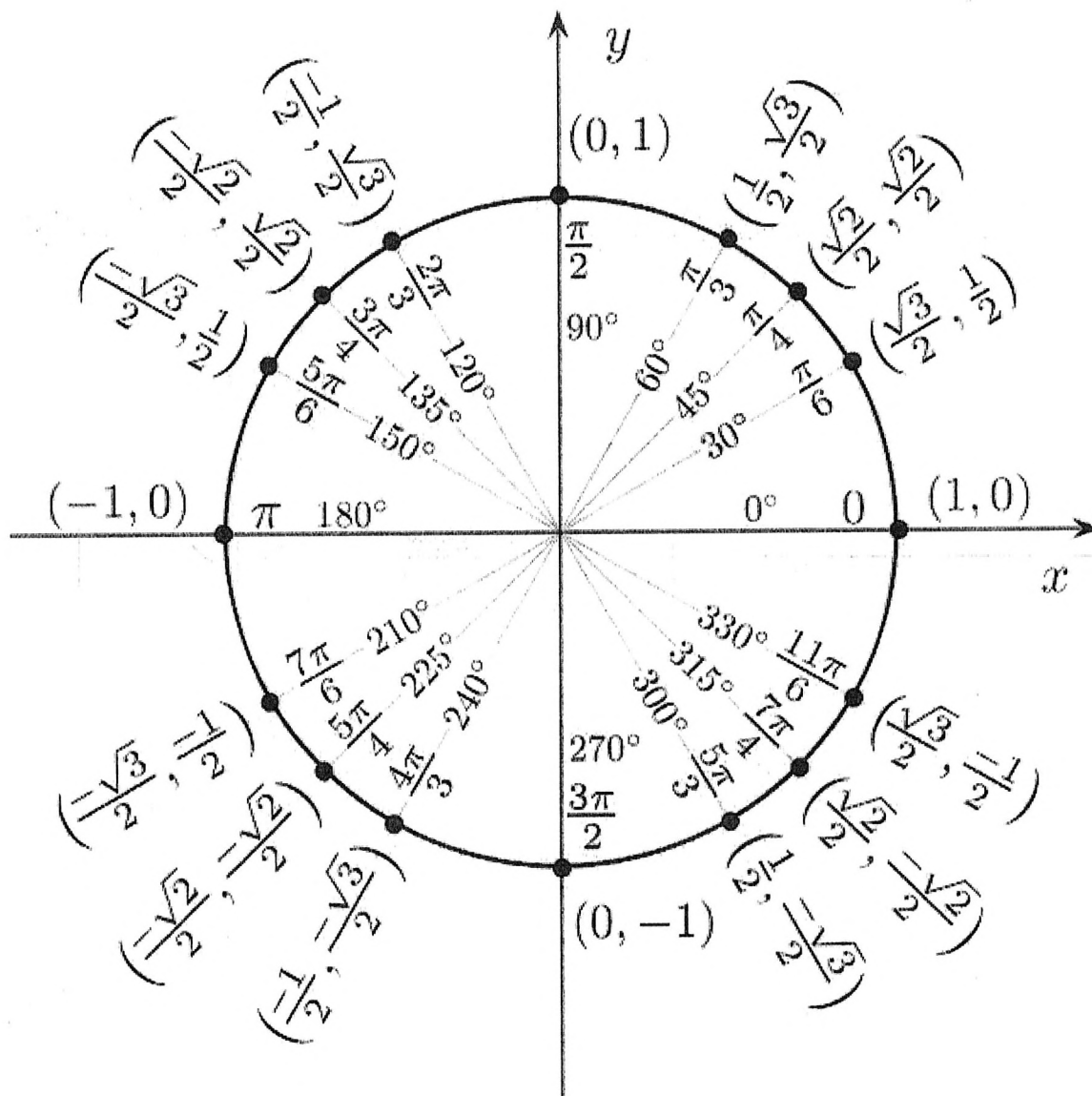
Name: _____

Day 2 Classwork/ Homework

- 1) If $\tan A < 0$ and $\cos A > 0$, in which quadrant does $\angle A$ terminate?
- A) *I* C) *III*
B) *II* D) *IV*
- 2) If $\sin A < 0$ and $\cos A < 0$, in which quadrant does $\angle A$ terminate?
- A) *I* C) *III*
B) *II* D) *IV*
- 3) If $\cos x = -\frac{\sqrt{3}}{2}$, in which quadrants could $\angle x$ terminate?
- A) *II* and *III*, only
B) *I* and *III*, only
C) *II* and *IV*, only
D) *I* and *IV*, only
- 4) If $\sin \theta < 0$ and $\tan \theta = -\frac{4}{5}$, in which quadrant does θ terminate?
- A) *I* C) *III*
B) *II* D) *IV*
- 5) If $\cos x = -\frac{\sqrt{2}}{2}$ which quadrants could $\angle x$ terminate?
- A) *II* and *IV* C) *I* and *IV*
B) *II* and *III* D) *I* and *III*
- 6) If $\tan x = -\sqrt{3}$, in which quadrants could angle x terminate?
- A) *III* and *IV* C) *II* and *IV*
B) *II* and *III* D) *I* and *III*
- 7) If $\cos A = -\frac{4}{5}$ and $\tan A$ is negative, in which quadrant does angle A terminate?
- A) *I* C) *III*
B) *II* D) *IV*
- 8) If $\sin A > 0$ and $\cos A < 0$, in which quadrant does angle A terminate?
- A) *I* C) *III*
B) *II* D) *IV*
- 9) If $\sin x = \cos x$, in which quadrant(s) may angle x lie?
- A) *II* or *IV* C) *II*, only
B) *I* or *III* D) *I*, only
- 10) If $\tan A > 0$ and $\cos A < 0$, in which quadrant does $\angle A$ terminate?
- A) *I* C) *III*
B) *II* D) *IV*

- 11) If $\sin A < 0$ and $\tan A > 0$, in which quadrant does angle A terminate?
A) *I* C) *III*
B) *II* D) *IV*
- 12) If $\tan x = -\frac{3}{2}$ and $\cos x > 0$, then angle x terminates in Quadrant
A) *I* C) *III*
B) *II* D) *IV*
- 13) If $\sin \theta = -\frac{3}{5}$ and $\cos \theta < 0$, then θ terminates in Quadrant
A) *I* C) *III*
B) *II* D) *IV*
- 14) If $\sin \theta = -\frac{2}{3}$ and $\tan \theta < 0$, in which quadrant does $\angle \theta$ terminate?
- 15) In which quadrant are *both* tangent and cosecant negative?
- 16) Name the quadrants in which an angle may lie if its sine is positive.
- 17) Name the quadrants in which an angle may lie if its cosine is negative.
- 18) Name the quadrants in which an angle may lie if its tangent is positive.
- 19) Name the quadrant in which angle θ may lie if $\sin \theta > 0$ and $\tan \theta < 0$.
- 20) Name the quadrant in which angle θ may lie if $\cos \theta > 0$ and $\sin \theta < 0$.

Points of Special Interest on the Unit Circle:



DAY 3

A unit circle diagram with the origin at the center. The circle is divided into four quadrants labeled I, II, III, and IV. The x and y axes are labeled with (1,0), (0,1), (-1,0), and (0,-1) at the ends. Radial lines are drawn at 15-degree intervals, with points labeled with their coordinates. The coordinates for the 15-degree increments are: (1/2, √3/2), (√3/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (√3/2, -√3/2), (1/2, -√3/2), and (0,-1). The coordinates for the 30-degree increments are: (1/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (1/2, -√3/2), (0,-1), (-1/2, -√3/2), and (-√3/2, -1/2). The coordinates for the 45-degree increments are: (1/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (1/2, -√3/2), (0,-1), (-1/2, -√3/2), and (-√3/2, -1/2). The coordinates for the 60-degree increments are: (1/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (1/2, -√3/2), (0,-1), (-1/2, -√3/2), and (-√3/2, -1/2). The coordinates for the 75-degree increments are: (1/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (1/2, -√3/2), (0,-1), (-1/2, -√3/2), and (-√3/2, -1/2). The coordinates for the 90-degree increments are: (1/2, √3/2), (√3/2, 1/2), (1,0), (√3/2, -1/2), (1/2, -√3/2), (0,-1), (-1/2, -√3/2), and (-√3/2, -1/2).

θ	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	undefined

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

Find the exact value of each of the following.

$\cos 120^\circ$	$\cos 315^\circ$	$\sin 300^\circ$
$\sin 30^\circ + \cos 60^\circ$	$4(\sin 30^\circ)(\cos 60^\circ)$	$\sin 300^\circ + \sin 240^\circ$

This image shows a blank sheet of white paper with ten horizontal black lines, resembling notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

$$\sin 240^\circ \cos 120^\circ \quad \cos 90^\circ + 3 \sin 225^\circ \quad \cos(-135^\circ) - 3 \sin 315^\circ$$

$$\sin 45^\circ + \cos 60^\circ \quad (\sec 45^\circ)^2 - (\tan 45^\circ)^2$$

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

$(\sin 45^\circ)(\cos 45^\circ)(\tan 45^\circ)$	$(\sin 30^\circ)(\sec 60^\circ)$
$\frac{\sin 45^\circ}{\cos 45^\circ}$	$\frac{\sin 30^\circ}{\csc 30^\circ}$

Dec 2-1:20 PM

Name: _____

Day 3 Classwork/ Homework

1) The value of $(\sin 60^\circ)(\cos 60^\circ)$ is

- A) $\frac{3}{4}$ C) $\frac{\sqrt{3}}{4}$
 B) $\frac{\sqrt{3}}{3}$ D) $\frac{\sqrt{2}}{4}$

2) Which is equal in value to $\sin 180^\circ$?

- A) $\tan 90^\circ$ C) $\tan 45^\circ$
 B) $\cos 0^\circ$ D) $\cos 90^\circ$

3) Which expression is *not* equivalent to $\sin 150^\circ$?

- A) $-\sin 210^\circ$ C) $\sin 30^\circ$
 B) $\cos 60^\circ$ D) $-\cos 60^\circ$

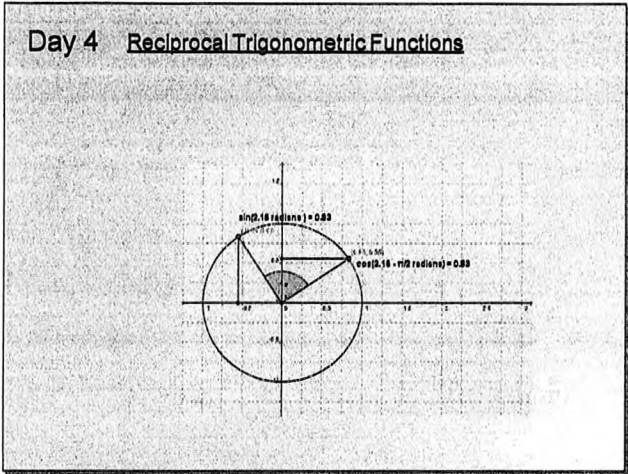
4) For which value of x is the expression $\frac{1}{1 - \cos x}$ undefined?

- A) 90° C) 180°
 B) 360° D) 270°

5) For which value of θ is the fraction $\frac{6}{\cos \theta}$ undefined?

- A) 0° C) 30°
 B) 90° D) 60°

6) Evaluate: $\sin 0^\circ + \cos 180^\circ$ 7) Evaluate: $\sin 90^\circ - \cos 270^\circ$ 8) Evaluate: $\sin 270^\circ + \cos 60^\circ$ 9) Evaluate: $\sin 30^\circ + \cos 60^\circ$ 10) Evaluate: $\sin 45^\circ - \cos 45^\circ$ 11) Evaluate: $\cos 30^\circ \sin 45^\circ \sin 30^\circ$ 12) Evaluate: $2 \cos 60^\circ \tan 30^\circ$



Nov 18-9:23 AM

Reciprocal identities

Cosecant θ is the reciprocal of sine θ
Secant θ is the reciprocal of cosine θ
Cotangent θ is the reciprocal of tangent θ

Reciprocal Functions	
$\sin \theta = \frac{1}{\csc \theta}$	$\csc \theta = \frac{1}{\sin \theta}$
$\cos \theta = \frac{1}{\sec \theta}$	$\sec \theta = \frac{1}{\cos \theta}$
$\tan \theta = \frac{1}{\cot \theta}$	$\cot \theta = \frac{1}{\tan \theta}$

Nov 18-9:23 AM

Quadrant values

Sin + Csc +	All +
Tan + Cot +	Cos + Sec +

Nov 18-9:23 AM

Also Important

$$\tan \theta = \frac{\sin \theta}{\cos \theta}$$

$$\cot \theta = \frac{\cos \theta}{\sin \theta}$$

These are known as the
Quotient Identities.

Nov 18-9:23 AM

What is the exact value of:

1). $\csc 150^\circ$

2). $\sec 180^\circ$

3). $\cot 330^\circ$

Nov 18-9:23 AM

1) If $\cos \theta = \frac{1}{2}$ and θ is in quadrant 1.

Find $\sin \theta$
 $\tan \theta$
 $\sec \theta$
 $\csc \theta$
 $\cot \theta$

Dec 1-8:18 AM

3) If $\sec \theta = \frac{-15}{13}$ and $\cot \theta > 0$.

Find $\sin \theta$

$\cos \theta$

$\tan \theta$

$\csc \theta$

$\cot \theta$

Dec 1-8:45 AM

Nov 18-9:23 AM

Name: _____

Day 4 CW/ HW

- | | |
|---|---|
| <p>1) If $\sin \theta$ is negative and $\cot \theta$ is positive, in which quadrant does θ terminate?</p> <p>A) <i>I</i> C) <i>III</i>
 B) <i>II</i> D) <i>IV</i></p> | <p>6) In which quadrant are <i>both</i> tangent and cosecant negative?</p> |
| <p>2) If $\tan \theta < 0$ and $\csc \theta > 0$, in which quadrant does θ terminate?</p> <p>A) <i>I</i> C) <i>III</i>
 B) <i>II</i> D) <i>IV</i></p> | <p>7) Name the quadrants in which an angle may lie if its secant is positive.</p> |
| <p>3) If $\cos A > 0$ and $\csc A < 0$, in which quadrant does the terminal side of $\angle A$ lie?</p> <p>A) <i>I</i> C) <i>III</i>
 B) <i>II</i> D) <i>IV</i></p> | <p>8) Name the quadrants in which an angle may lie if its cotangent is negative.</p> |
| <p>4) If $\csc \theta = -5$ and $\tan \theta > 0$, then θ must lie in Quadrant</p> <p>A) <i>I</i> C) <i>III</i>
 B) <i>II</i> D) <i>IV</i></p> | <p>9) Name the quadrant in which angle θ may lie if $\csc \theta > 0$ and $\cos \theta < 0$.</p> |
| <p>5) If $\sec x < 0$ and $\tan x < 0$, then the terminal side of angle x is located in Quadrant</p> <p>A) <i>I</i> C) <i>III</i>
 B) <i>II</i> D) <i>IV</i></p> | <p>10) Name the quadrant in which angle θ may lie if $\sec \theta < 0$ and $\tan \theta > 0$.</p> |

- 11) Name the quadrant in which angle θ may lie if $\cot \theta > 0$ and $\sin \theta < 0$.
- 12) Name the quadrant in which angle θ may lie if $\csc \theta < 0$ and $\sec \theta > 0$.
- 13) Name the quadrant in which angle θ may lie if $\sec \theta > 0$ and $\cot \theta < 0$.
- 14) Name the quadrant in which angle θ may lie if $\csc \theta > 0$ and $\sec \theta < 0$.
- 15) If $(3,4)$ is a point on the terminal side of angle θ in standard position, evaluate *all* six trigonometric functions of θ in simplest radical form.
- 16) If $(5,12)$ is a point on the terminal side of angle θ in standard position, evaluate *all* six trigonometric functions of θ in simplest radical form.
- 17) If $(-6,8)$ is a point on the terminal side of angle θ in standard position, evaluate *all* six trigonometric functions of θ in simplest radical form.
- 18) If $\tan A = \frac{8}{15}$ and A is a positive acute angle, evaluate *all* remaining trigonometric functions of A in simplest radical form.
- 19) If θ is an angle in standard position in quadrant *III* and $\sin \theta = -\frac{15}{17}$, evaluate *all* remaining trigonometric functions of θ in simplest radical form.
- 20) If $\cos \theta = -\frac{1}{2}$ and θ is *not* a third-quadrant angle, what is $\sin \theta$?

Find the exact value:

1. $\sec 60^\circ$

2. $\sec 180^\circ$

3. $\cot 45^\circ$

4. $\sin 0^\circ + \cos 0^\circ + \tan 0^\circ$

5. $(\sin 30^\circ)(\sec 60^\circ)$

7. $\frac{\sin 45^\circ}{\cos 60^\circ}$

8. $\frac{\sin 30^\circ}{\csc 30^\circ}$

Dec 4-12:34 PM

Put your calculator in degree mode

- Hit MODE

- Arrow down twice and to the right once
so that DEGREE is highlighted, hit ENTER

- Your calculator is now in DEGREES and will
remain in DEGREES unless it is reset

Using your calculator, find the following to 4 decimal
places:

1. $\sin 70^\circ$

2. $\cos 215^\circ$

3. $\tan 139^\circ$

4. $\sec 54^\circ$

Dec 4-12:41 PM

use your chart to find:

$\sin 45^\circ$

$\cos 30^\circ$

$\sin 30^\circ$

$\sec 60^\circ$

use your calculator to find the
exact value of:
 $\cos 135^\circ$

$\sin 300^\circ$

$\cos 60^\circ$

$\csc 150^\circ$

Dec 4-12:49 PM

If $\sin \theta = .4841$ find θ to the nearest degree.

to find θ :
hit 2ND SIN .4841

Answer:

To find an angle
you need to hit
2ND and then
the function key

Find the following values of θ to the nearest degree:

$\cos \theta = .7542$

$\tan \theta = 1.3456$

Dec 4-1:06 PM

A degree, like an hour, is divided into 60 minutes.
The measure of an angle written as $37^\circ 45'$ is read as 37 degrees 45 minutes.

You can find the symbols on the calculator

Typing in an angle in degrees and minutes
Hit 2ND APPS which has the word ANGLE above it
Find: $\sin 37^\circ 45'$ to 4 places

To put an angle into DMS:
Hit 2ND APPS 4: DMS
Find θ if $\sin \theta = .2431$

the nearest minute: look at the seconds. If it is 30 or higher round up

the nearest ten minutes: look at the single minute digit. If it is 5 or higher round up

Dec 4-1:27 PM

What is $\tan 90^\circ$?

What is θ if $\sin \theta = 1.5674$?

What is $\tan 270^\circ$?

What is θ if $\cos \theta = -2.354$?

Dec 4-1:48 PM

In 3-38, find each function value to four decimal places.

26. $\cos 205^\circ 12'$

In 39-50, find the smallest positive value of θ to the nearest degree.

47. $\sin \theta = 0.5446$

In 51-58, find the smallest positive value of θ to the nearest minute.

55. $\sin \theta = 0.6534$

63. The terminal side of an angle in standard position intersects the unit circle at the point $(0.28, -0.96)$.

a. In what quadrant does the terminal side of the angle lie?

b. Find, to the nearest degree, the smallest positive measure of the angle.

Dec 4-2:00 PM

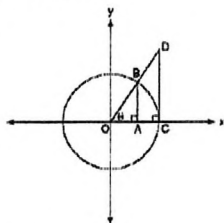
Dec 7-8:14 AM

Day 6

- 1) Which angle is coterminal with an angle of 125° ?
 [A] 425° [B] -125°
 [C] -235° [D] 235°
- 2) If θ is an angle in standard position and its terminal side passes through the point $(\frac{1}{2}, \frac{\sqrt{3}}{2})$ on a unit circle, a possible value of θ is
 [A] 150° [B] 30° [C] 60° [D] 120°
- 3) If the sine of an angle is $\frac{3}{5}$ and the angle is not in Quadrant I, what is the value of the cosine of the angle?
 [A] sine and tangent [B] sine and cosine [C] sine and cosecant [D] sine and secant
- 4) If $\tan \theta = 2.7$ and $\csc \theta < 0$, in which quadrant does θ lie?
 [A] II [B] III [C] IV [D] I
- 5) If $\sin \theta > 0$ and $\sec \theta < 0$, in which quadrant does the terminal side of angle θ lie?
 [A] IV [B] I [C] III [D] II
- 6) Which functions are positive for angles terminating in Quadrant II?
 [A] sine and tangent [B] sine and cosine [C] sine and cosecant [D] sine and secant

Dec 7-7:05 AM

The accompanying diagram shows unit circle O , with radius $OB = 1$.



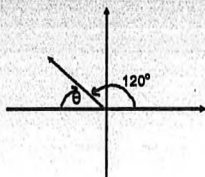
Which line segment has a length equivalent to $\cos \theta$?

- [A] $\overline{AB}$ [B] $\overline{OC}$ [C] $\overline{OA}$ [D] $\overline{CD}$

Dec 7-8:50 AM

Reference Angles

Reference Angle - is the positive acute angle formed by the terminal side and the x-axis.



θ is the reference angle

$\theta =$

Dec 7-7:10 AM

Find the reference angle for the following:

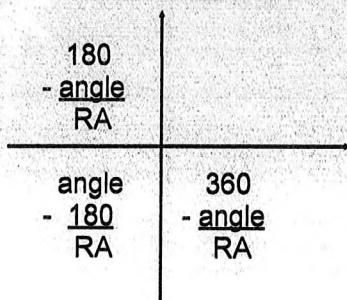
a) 225°

b) 315°

Write a rule to find reference angles:

Dec 7-7:26 AM

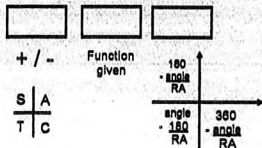
To find a reference angle:



Dec 7-7:28 AM

Express an angle as a function of a positive acute angle.

1) $\cos 260^\circ$



Dec 7-7:34 AM

Express an angle as a function of a positive acute angle.

2) $\tan 215^\circ$

3) $\sin 280^\circ$

4) $\cos 690^\circ$

5) $\tan 650^\circ$

6) $\sin (-200)^\circ$

7) $\cos (-250)^\circ$

Dec 7-8:32 AM

Find the measure of θ angles to the nearest degree.
 $0 \leq \theta < 360^\circ$

8) $\tan \theta = 0.5095$

9) $\sin \theta = -0.8746$

10) $\cos \theta = -0.1392$

11) $\cos \theta = -0.9336$

Dec 7-8:36 AM

Name: _____

Day 6 CW/HW

- 1) Which expression is equivalent to $\sin 150^\circ$?
A) $\sin(-30^\circ)$ C) $\sin 30^\circ$
B) $-\sin 30^\circ$ D) $\cos 30^\circ$
- 2) $\sin(190^\circ)$ is equal to
A) $-\cos(10^\circ)$ C) $-\sin(10^\circ)$
B) $\cos(10^\circ)$ D) $\sin(10^\circ)$
- 3) Which expression is equivalent to $\cos 150^\circ$?
A) $\cos 30^\circ$ C) $-\cos 30^\circ$
B) $-\cos 60^\circ$ D) $\cos 60^\circ$
- 4) $\cos 280^\circ$ is equivalent to
A) $\cos 80^\circ$ C) $-\sin 80^\circ$
B) $\cos 10^\circ$ D) $-\cos 80^\circ$
- 5) Express $\sin 186^\circ$ as a sin function of a positive acute angle.
- 6) Express $\sin 380^\circ$ as a sin function of a positive acute angle.
- 7) Express $\sin 700^\circ$ as a sin function of a positive acute angle.
- 8) Express $\cos 253^\circ$ as a cos function of a positive acute angle.
- 9) Express $\cos 600^\circ$ as a cos function of a positive acute angle.
- 10) Express $\cos 655^\circ$ as a cos function of a positive acute angle.
- 11) Express $\cos(-220^\circ)$ as a cos function of a positive acute angle.
- 12) Express $\tan 100^\circ$ as a tan function of a positive acute angle.

- | | |
|---|---|
| 13) Express $\tan 322^\circ$ as a $\tan$ function of a positive acute angle. | 20) Express $\csc 264^\circ$ as a $\csc$ function of a positive acute angle. |
| 14) Express $\tan (-160^\circ)$ as a $\tan$ function of a positive acute angle. | 21) Express $\cot 200^\circ$ as a $\cot$ function of a positive acute angle. |
| 15) Express $\tan (-262^\circ)$ as a $\tan$ function of a positive acute angle. | 22) Express $\sin (183^\circ 20')$ as a $\sin$ function of a positive acute angle. |
| 16) Express $\tan (-350^\circ)$ as a $\tan$ function of a positive acute angle. | 23) Express $\sin (372^\circ 18')$ as a $\sin$ function of a positive acute angle. |
| 17) Express $\tan (-655^\circ)$ as a $\tan$ function of a positive acute angle. | 24) Express $\sin (-325^\circ 43')$ as a $\sin$ function of a positive acute angle. |
| 18) Express $\sec 135^\circ$ as a $\sec$ function of a positive acute angle. | 25) Express $\cos (170^\circ 40')$ as a $\cos$ function of a positive acute angle. |
| 19) Express $\sec 342^\circ$ as a $\sec$ function of a positive acute angle. | 26) Express $\cos (214^\circ 43')$ as a $\cos$ function of a positive acute angle. |

Name: _____ Date: _____

Day 7 Test Review

- 1) If $(4, -3)$ is a point on the terminal side of an angle θ in standard position, evaluate *all* six trigonometric functions of θ in simplest radical form.
- 2) If $\tan A < 0$ and $\cos A > 0$, in which quadrant does $\angle A$ terminate?

A) <i>I</i>	C) <i>III</i>
B) <i>II</i>	D) <i>IV</i>
- 3) If $\sin \theta$ is negative and $\cot \theta$ is positive, in which quadrant does θ terminate?

A) <i>I</i>	C) <i>III</i>
B) <i>II</i>	D) <i>IV</i>
- 4) Which of the following angles is coterminal with 825° ?

A) 625°	C) 75°
B) 365°	D) 105°
- 5) Sketch 450° in standard position.
- 6) Evaluate: $2 \sec 180^\circ \csc 270^\circ$
- 7) Evaluate: $\sec 0^\circ + \csc 90^\circ$
- 8) Evaluate: $\sin 270^\circ + \cos 60^\circ$
- 9) Express $\sin 700^\circ$ as a sin function of a positive acute angle.
- 10) Are -90° and 450° coterminal?
- 11) Express $\sin 190^\circ$ as a sin function of a positive acute angle.

- 12) The point $(\frac{\sqrt{3}}{2}, \frac{1}{2})$ is on the terminal side of an angle θ in standard position. If the distance of the point from the origin is one unit, find $\sin \theta$ and $\cos \theta$.

- 13) If $\cos x = -\frac{\sqrt{2}}{2}$ which quadrants could $\angle x$ terminate?

A) II and III C) I and III
B) I and IV D) II and IV

- 14) Which expression is equivalent to $\sin(-120^\circ)$?

A) $-\sin 60^\circ$ C) $\sin 60^\circ$
B) $-\sin 30^\circ$ D) $\cos 30^\circ$

- 15) $\cos 280^\circ$ is equivalent to

A) $-\sin 80^\circ$ C) $\cos 10^\circ$
B) $\cos 80^\circ$ D) $-\cos 80^\circ$

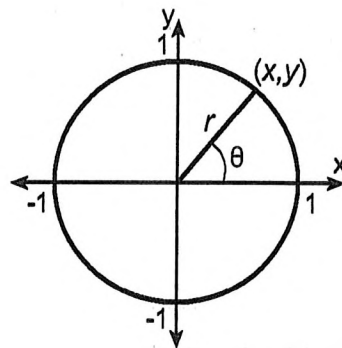
- 16) If $\cos \theta = -\frac{4}{5}$ and $\tan \theta > 0$, the value of $\sin \theta$ is

A) $-\frac{5}{3}$ C) $\frac{3}{5}$
B) $\frac{5}{3}$ D) $-\frac{3}{5}$

- 17) Which expression is equivalent to $\cos 150^\circ$?

A) $\cos 30^\circ$ C) $-\cos 30^\circ$
B) $-\cos 60^\circ$ D) $\cos 60^\circ$

- 18) In the accompanying diagram of a unit circle, the ordered pair (x,y) represents the locus of points forming the circle.



Which ordered pair is equivalent to (x,y) ?

A) $(\tan \theta, \cot \theta)$ C) $(\cos \theta, \sin \theta)$
B) $(\cot \theta, \tan \theta)$ D) $(\sin \theta, \cos \theta)$

- 19) If $\sin \theta < 0$ and $\tan \theta = -\frac{4}{5}$, in which quadrant does θ terminate?

A) I C) III
B) II D) IV

- 20) If $\tan \theta < 0$ and $\csc \theta > 0$, in which quadrant does θ terminate?

A) I C) III
B) II D) IV