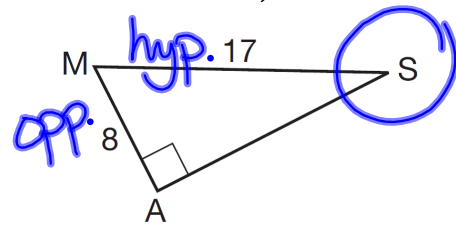


WARM UP:

IN THE RIGHT TRIANGLE SHOWN BELOW,
WHAT IS THE MEASURE OF ANGLE S, TO
THE NEAREST DEGREE?



SOH CAHTOA

~~sin~~ $\sin S = \frac{8}{17}$

$\sin^{-1}(8/17)$
28.07248694

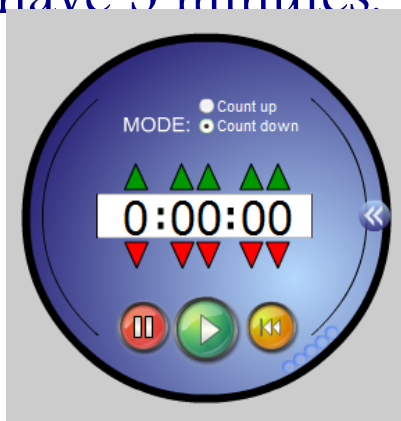


$S = 28^\circ$

POP QUIZ!

Put everything away except calculators and pens

You have 5 minutes. GO!



Unit Circle and Angles



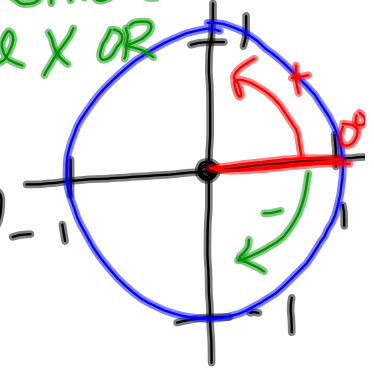
unit circle- Circle w/ Radius = 1
 Centered @ (0,0) (eq: $x^2 + y^2 = 1$)

quadrantal angle- \angle in standard position
 whose terminal ray lies on the x or

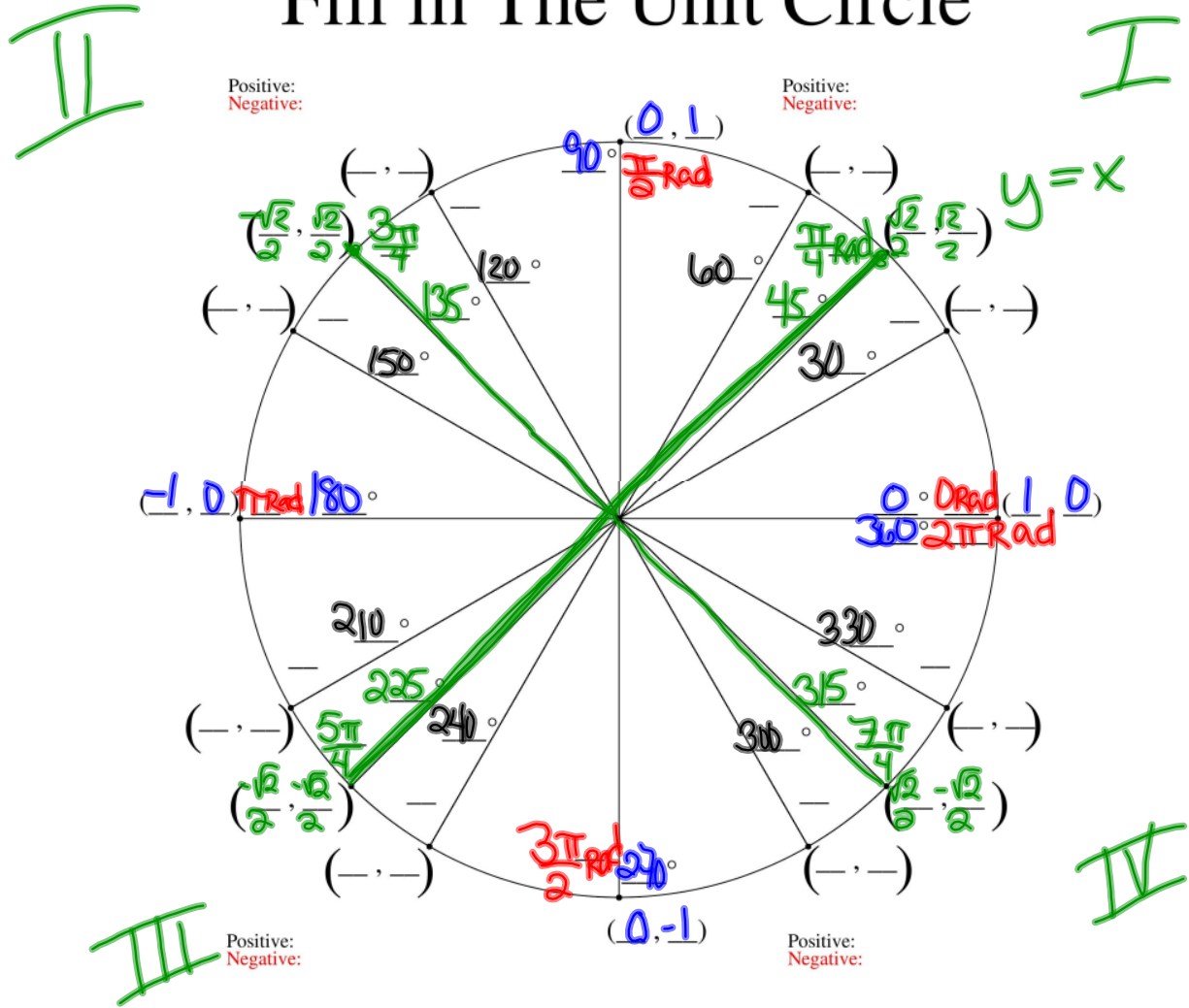
standard position- \angle w/ its initial ray @ 0°
 (pos. side of x-axis)

initial ray/side-
 Start of an angle

terminal ray/side-
 end of an angle



Fill in The Unit Circle

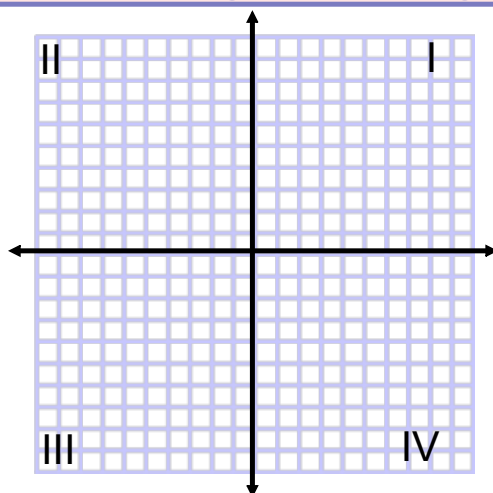


EmbeddedMath.com

Angle Measure (θ)	Sine ($\sin \theta$)	Cosine ($\cos \theta$)	Tangent ($\tan \theta$)	Coordinates (x,y) ($\cos \theta, \sin \theta$)
0° 0 radians				
30° $\frac{\pi}{6}$ radians				
45° $\frac{\pi}{4}$ radians				
60° $\frac{\pi}{3}$ radians				
90° $\frac{\pi}{2}$ radians				
120° $\frac{2\pi}{3}$ radians				
135° $\frac{3\pi}{4}$ radians				
150° $\frac{5\pi}{6}$ radians				
180° π radians				
210° $\frac{7\pi}{6}$ radians				
225° $\frac{5\pi}{4}$ radians				
240° $\frac{4\pi}{3}$ radians				
270° $\frac{3\pi}{2}$ radians				
300° $\frac{5\pi}{3}$ radians				
315° $\frac{7\pi}{4}$ radians				
330° $\frac{11\pi}{6}$ radians				
360° 2π radians				
-30° $-\frac{\pi}{6}$ radians				
-45° $-\frac{\pi}{4}$ radians				
-60° $-\frac{\pi}{3}$ radians				

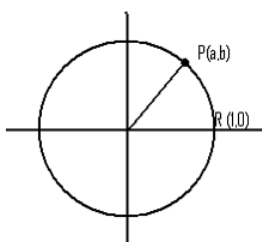
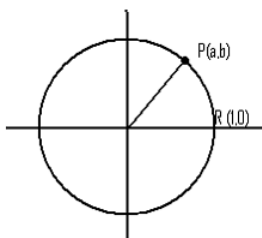
What is the relationship with the (x,y) values and the values of the trig functions?

What is the relationship with the signs of each trig function in each quadrant?



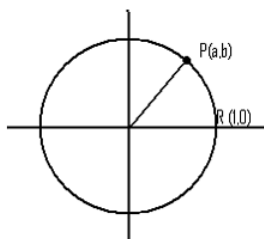
Reference Angles

reference angle-



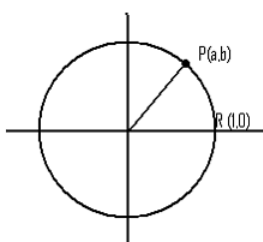
Quadrant II Reference Angles:

Express $\cos(-220^\circ)$ as a function of a positive acute angle.

Quadrant III Reference Angles:

Express $\cos(-155^\circ)$ as a function of a positive acute angle.

Express $\tan 230^\circ$ as a function of a positive acute angle.

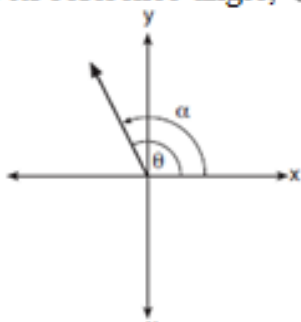
Quadrant IV Reference Angles:

Express $\sin(-215^\circ)$ as a function of a positive acute angle.

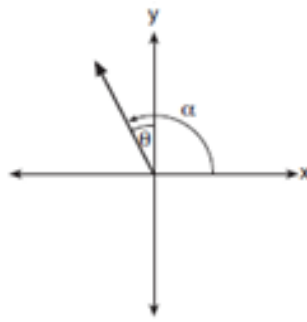
Express $\sin(-170^\circ)$ as a function of a positive acute angle.

Which diagram represents an angle, α , measuring $\frac{13\pi}{20}$ radians drawn in standard position, and its reference angle, θ ?

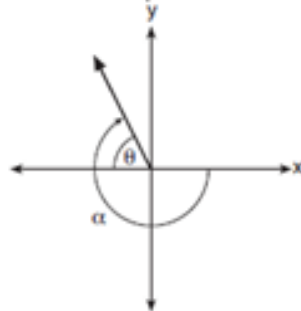
1)



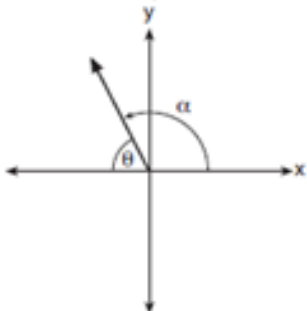
3)



2)



4)



Developing Skills HW: p. 361 #3-17 odd

In 3–7, draw each angle in standard position. 3. 45° 5. -180° 7. 110°

In 8–17, name the quadrant in which an angle of each given measure lies.

9. 150° 11. 300° 13. -200° 15. -400° 17. $1,050^\circ$

◆-----◆
HW: p. 391 #12-14, 21-22, 31-32

In 8–17, for each angle with the given degree measure, find the measure of the reference angle.

12. 285°

13. 310°

14. 95°

In 18–27, express each given function value in terms of a function value of a positive acute angle (the reference angle).

21. $\cos 312^\circ$

22. $\tan 170^\circ$

In 28–43, for each function value, if $0^\circ \leq \theta < 360^\circ$, find, to the nearest degree, two values of θ .

31. $\tan \theta = 1.4281$

32. $\sin \theta = 0.8090$

Attachments

blankunitcircle-letter.pdf