

Warm Up

1. Convert from radians to degrees or degrees to radians

a) 130°

b) $5\pi/6$

c) 200°

d) 2π

360°

150°

$\frac{10\pi}{9}$

$\frac{13\pi}{18}$

Index Card

$\cos^{-1}x$ "arc cos"

NAME

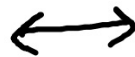
UNIT CIRCLE TRIG

① $\cos \theta = x$



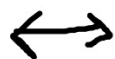
④ $\sec \theta = \frac{1}{x}$
"Secant"

② $\sin \theta = y$



⑤ $\csc \theta = \frac{1}{y}$
"cosecant"

③ $\tan \theta = \frac{y}{x}$



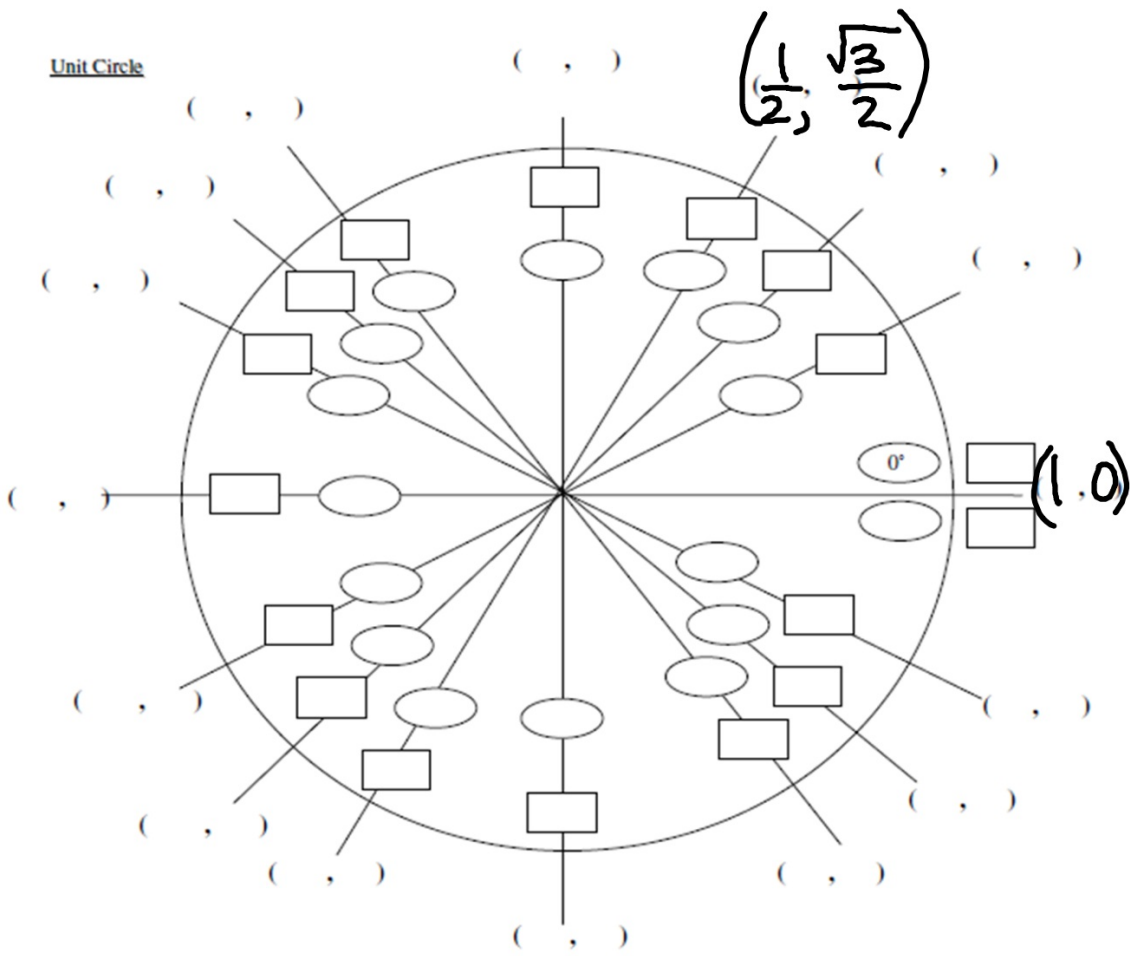
⑥ $\cot \theta = \frac{x}{y}$
"cotangent"

Objective 5.3

I can... build the Unit Circle... and use it to find answers without a calculator!

Calc

Unit Circle



Key

$(,)$

↓
 $\cos\theta, \sin\theta$

○

↓
Degrees

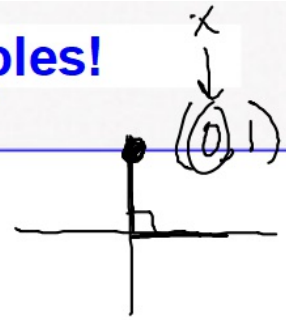
□

↓
Radians

5.3 Using the Unit Circle Examples!

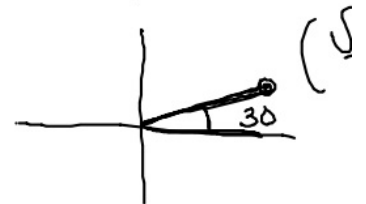
1. What is the $\cos(90^\circ)$?

$$\begin{array}{c} \downarrow \\ \text{x value} \end{array} \rightarrow \boxed{0}$$



2. What is the $\sin(30^\circ)$?

$$\begin{array}{c} \downarrow \\ \text{y value} \end{array} \rightarrow \boxed{\frac{1}{2}}$$



3. What is the $\sin(180^\circ)$?

$$\begin{array}{c} \downarrow \\ \text{y value} \end{array} = \boxed{0}$$



4. What is the $\cos(225^\circ)$?

$$\begin{array}{c} \downarrow \\ \text{x value} \end{array} = \boxed{-\frac{\sqrt{2}}{2}}$$



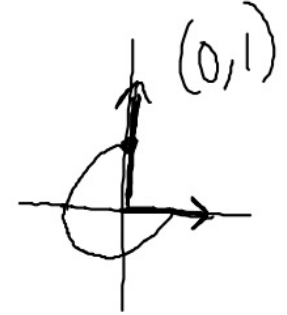
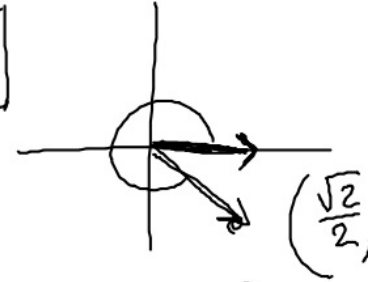
5. What is the $\tan(315^\circ)$?

$$\frac{y}{x} = \frac{\left(-\frac{\sqrt{2}}{2}\right)}{\left(\frac{\sqrt{2}}{2}\right)} = \boxed{-1}$$



6. What is $\cot(-270^\circ)$?

$$\frac{x}{y} = \frac{0}{1} = \boxed{0}$$



P-I-G

- No calculators!
- Use your knowledge & apply it!
- Work together
- Help each other understand

Write a letter to a teacher

Asciutto
Baker
Brady
Caldwell
Chambers
CSM Thomas
Dickens
Eastburn
Ellerbe
Kimble
Kirby
Marsh
Matthews
Montgomery
C. Thompson (Mr.)
E. Thompson (Ms.)
Reneike
T. Rorie (Mr.)
L. Rorie (Ms.)
Silverman
Simmons
SiTahar
Willis
Quan

- Tell them about the Unit circle and precalculus
- Explain how to use the Unit circle to find the true values of a functions
- Remember, you are literally doing the work of a calculator. Be proud of that.

Exit Journal Q's

1. $\cos(180)$

2. $\sec(90)$

3. $\cot(225)$

4. $\tan(30)$