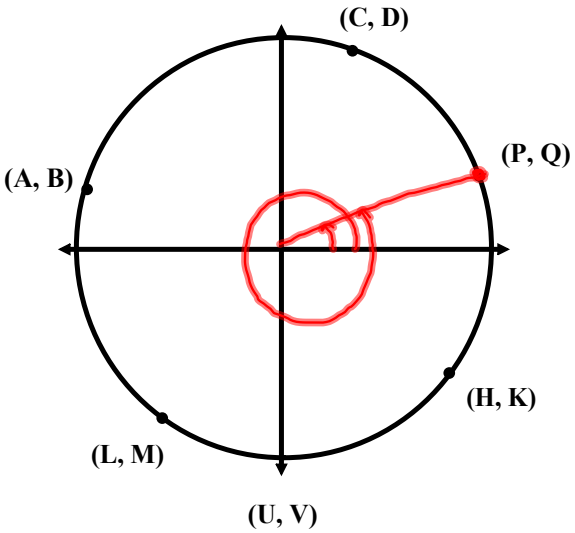
Questions from Homework!!!



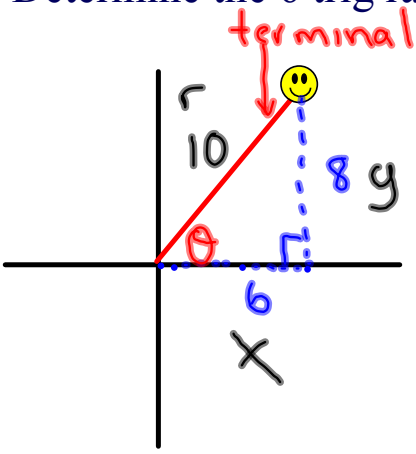
$x = \cos\theta$

$y = \sin\theta$

1. $\sin 330^\circ$ K
2. $\cos 270^\circ$ U
3. $\sin 170$ B
4. $\cos 240$ L
5. $\sin 80$ D
6. $\cos 330$ H
7. $\sin 30$ Q
8. $\cos 390$ P

Warm Up

The ordered pair (6, 8) lies on the terminal arm of an angle.
Determine the 6 trig ratios of this angle



$$\sin\theta = \frac{y}{r} \quad \csc\theta = \frac{r}{y}$$

$$\cos\theta = \frac{x}{r} \quad \sec\theta = \frac{r}{x}$$

$$\tan\theta = \frac{y}{x} \quad \cot\theta = \frac{x}{y}$$

$a^2 + b^2 = c^2$
$8^2 + 6^2 = c^2$
$64 + 36 = c^2$
$100 = c^2$
$10 = c$

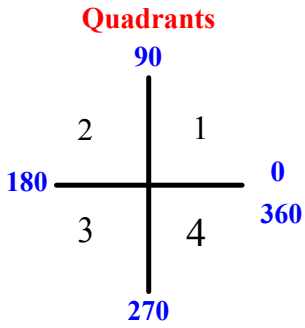
$\sin\theta = \frac{4}{5}$ $\quad \csc\theta = \frac{5}{4}$

$\cos\theta = \frac{3}{5}$ $\quad \sec\theta = \frac{5}{3}$

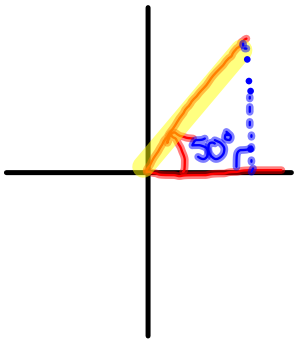
$\tan\theta = \frac{4}{3}$ $\quad \cot\theta = \frac{3}{4}$

Sketching Angles

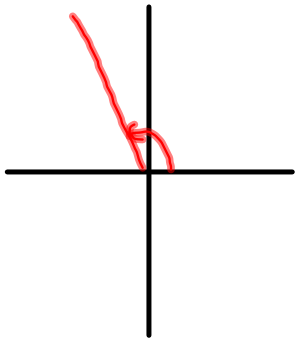
If the angle is positive rotate counterclockwise. If the anlge is negative rotate clockwise .What do you notice about "a" and "d"?



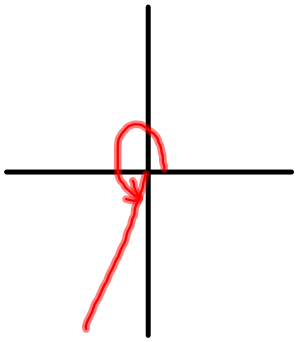
a) 50°



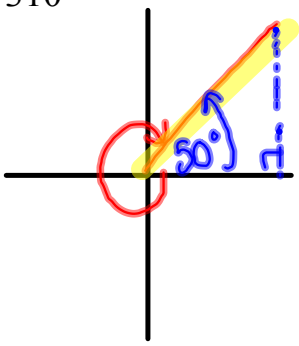
b) 120



c) 240



d) -310



Coterminal Angles

Angles that share the same terminal side/terminal arm are said to be coterminal

To find other coterminal angles we can use the following formula:

Add/Subtract multiples of 360°

$$A_c = A + k * 360$$

where k is a constant ex. 2, 3, -2, etc.

Find an angle coterminal to 50

$A_c = A + 360k$

$= 50 + 360(1)$

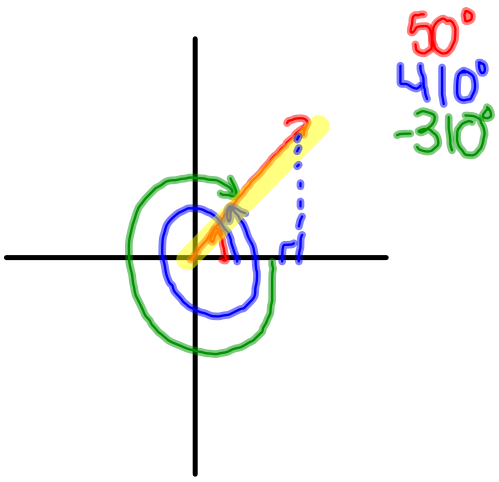
$= 50° + 360°$

$= 410°$

$A_c = 50 + 360(-1)$

$= 50° - 360°$

$= -310°$



Principal Angles (Coterminal)

Smallest positive angle between 0° and 360°

Ex: 13784°

1) **Divide By 360 (how many rotations??)** $13784° \div 360 = 38.\overline{28}$
2) **Get rid of # of full rotations** $38.\overline{28} - 38 = 0.\overline{28}$
3) **Mulitply decimal by 360 to find principal angle** $0.\overline{28} \times 360 = 104°$

Try These!

139275°

$= 315°$

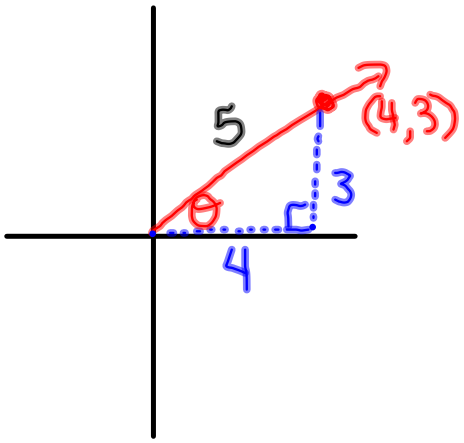
-27342°

$= -342°$

$+ 360°$

$18°$

③ a)



$a^2 + b^2 = c^2$

$4^2 + 3^2 = c^2$

$16 + 9 = c^2$

$25 = c^2$

$5 = c$

Primary trig values:

$\sin\theta = \frac{3}{5}$

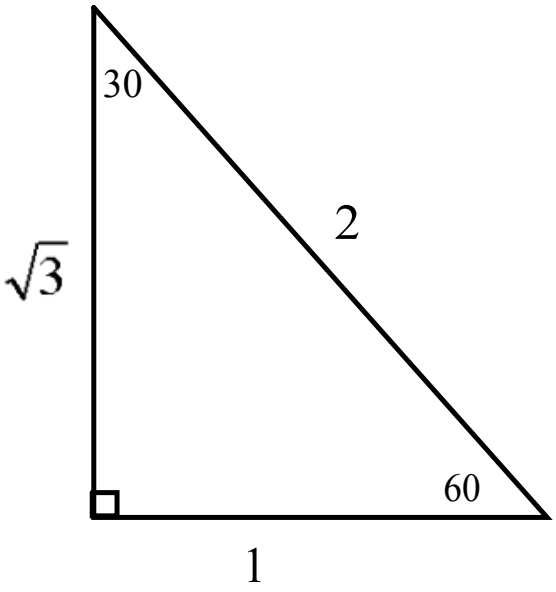
$\cos\theta = \frac{4}{5}$

$\tan\theta = \frac{3}{4}$

Special Angles

I. 30° *and* 60°

MEMORIZE THESE DIAGRAMS!!!

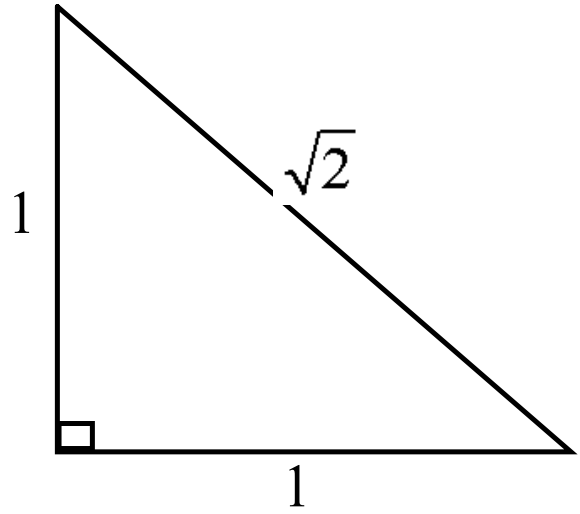


	30	60
Sin		
Cos		
Tan		

Special Angles

II. 45°

MEMORIZE THESE DIAGRAMS!!!

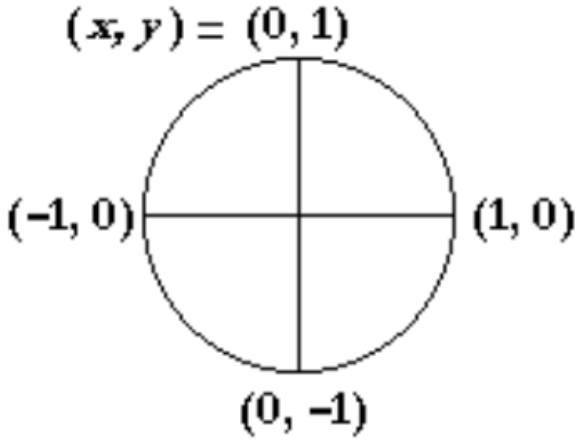


	45
Sin	
Cos	
Tan	

MEMORIZE THESE DIAGRAMS!!!

III. Quadrantal Angles (Multiples of 90^o)

Unit Circle



	0^0	90^0	180^0	270^0	360^0
sin	0	1	0	-1	0
cos	1	0	-1	0	1
tan	0	undefined	0	undefined	0