

## Warm Up

How does the graph of  $g(x) = 0.5 \cos(2x)$  differ from the graph of its parent function,  $f(x) = \cos(x)$ , over the interval  $-\pi \leq x \leq \pi$ ?

- $P = 2\pi$
- unit 5
- $P = \frac{2\pi}{2} = \pi$
- A The amplitude is smaller, and the period is shorter.
  - B The amplitude is smaller, and the period is longer.
  - C The amplitude is larger, and the period is shorter.
  - D The amplitude is larger, and the period is longer.

**Take out HW!!!!**

Which equation is equivalent to  $3 \log x + \log 2 = \log 3x + \log 2$ ?

~~X~~  $\log x^3 + 2 = \log(3x - 2)$

~~X~~  $\log(3x + 2) = \log(3x - 2)$

C  $\log 6x = \log\left(\frac{3x}{2}\right)$

D  $\log(2x^3) = \log\left(\frac{3x}{2}\right)$

unit 2

$$\log x^3 + \log 2 = \log \frac{3x}{2}$$

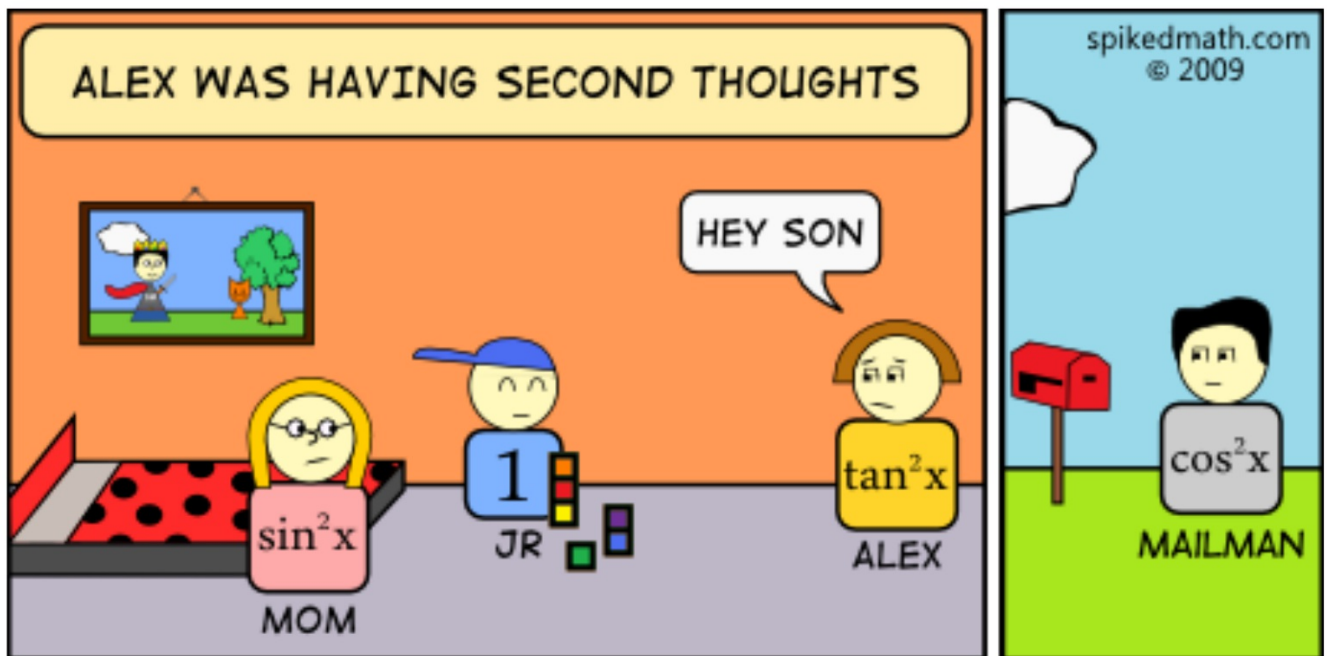
$$\log 2x^3 = \log \frac{3x}{2}$$

The graph of  $y = ax^2$  is shifted up 3 units and right 5 units. Which equation represents the resulting graph?

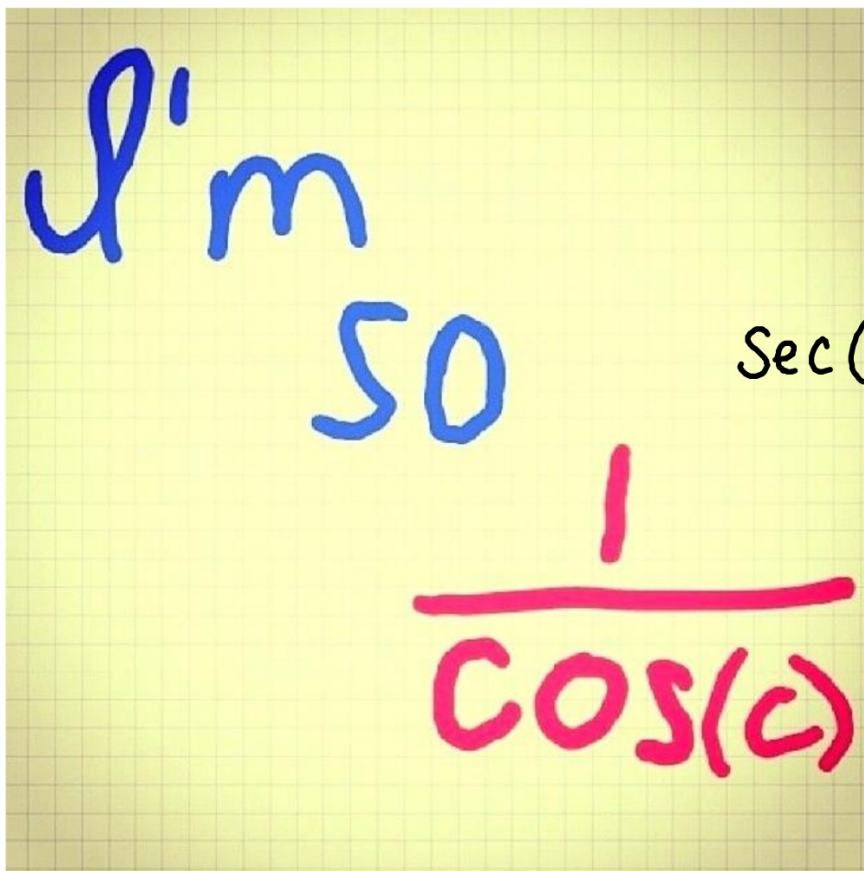
- A  $y = a(x - 5)^2 + 3$
- B  $y = a(x + 5)^2 + 3$
- C  $y = a(x - 3)^2 + 5$
- D  $y = a(x + 3)^2 + 5$

unit 1

Do you get the joke?



What about this one?



The image shows a handwritten derivation on graph paper. At the top left, the letters 'd' and 'm' are written in blue ink. Below them, the number '50' is written in blue ink. To the right of '50', the expression 'Sec(c)' is written in black ink. Below 'Sec(c)', a fraction is written in red ink, consisting of a horizontal line with the number '1' above it and 'cos(c)' below it.

$$\frac{1}{\cos(c)}$$

I'm  
 $\sqrt{1 + \tan^2 C}$   
and I know it.

$\sqrt{\sec^2 c}$

$\sec(c)$





## Scavenger Hunt

- Partners or Trios!
- Find the answer to each question
- Spell the secret message

What do you call a man  
after he has been at  
the beach all summer?

**A TANGENT**



Make a new page in your journal!!

## 6.4: Solving Trig Equations

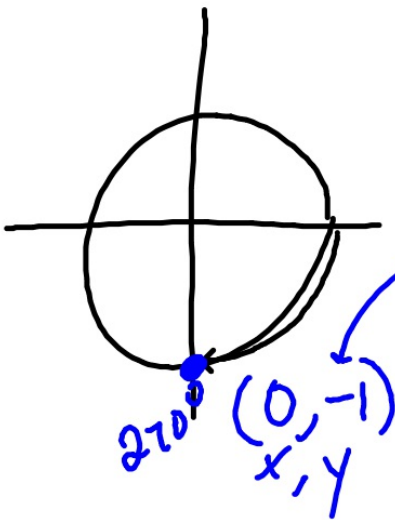
Example 1:

$$\sin \theta + y = 0$$

"theta"

\* solve  
for  $\theta$

$$\sin \theta = -1$$



$$\sin^{-1}(-1) = \theta$$

$$-90^\circ = \theta$$

$$270^\circ = \theta$$

or

$$\frac{3\pi}{2} = \theta$$

$$\times \frac{\pi}{180} \rightarrow$$

Example 2:

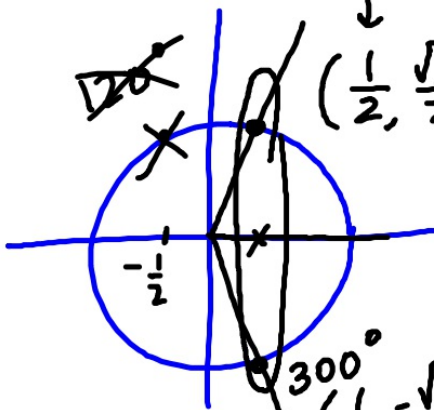
$$2 \cos \theta - 1 = 0$$

Solve for "All"  
the angles

$$\times 2 \cos \theta = 1$$

$$\downarrow$$
$$\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right) \cos \theta = \frac{1}{2}$$

$$\{60^\circ, 300^\circ\}$$



$$\cos^{-1}\left(\frac{1}{2}\right) = \theta$$

$$300^\circ$$
$$\left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$$

$$\boxed{60^\circ = \theta}$$

and

$$\boxed{300^\circ}$$





Example 3:  $2 \tan \theta - 2 = 0$

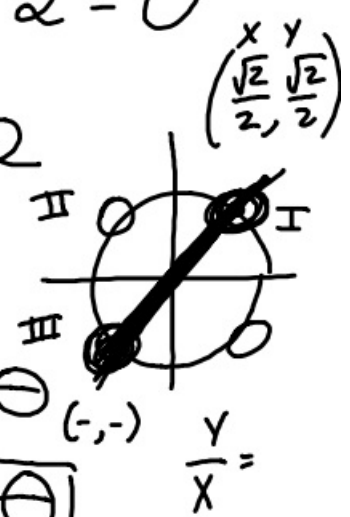
$\tan = \frac{y}{x}$

$2 \tan \theta = 2$

$\tan \theta = 1$

$\tan^{-1}(1) = \theta$

$45^\circ = \theta$   
 $225^\circ = \theta$



## **Unit 6 Summary**

- **Complete your unit 6 concept map**
- **Key thing: memorize those ID's!**

