

Do the warm-up at the start of today's Day 4 notes.

1. a
2. c
3. a
4. c

5 & 6. see graphs in the following slides

Feb 6-6:40 PM

Algebra 2 Homework 11-3

Choose the best answer.

- A

$$|A| = 2$$
$$\text{Per} = \frac{\pi}{1} = \frac{2\pi}{|w|}$$
$$2\pi = \pi |w|$$
$$2 = |w|$$

- 2

$$\text{Per} = \frac{\pi}{1} = \frac{2\pi}{|w|}$$

$$\pi |w| = 2\pi$$

$$|w| = 2$$

- A

Which is the equation of this graph?

- $\frac{1}{2}$ cycle in 2π
↑
|w| goes through (9,0)
so... some f(x).

- ^

Which is the equation of this graph?

- sine fn amp = 2
 2 cycles in 2π
 $\uparrow$
 $|w|$

Feb 6-6:41 PM

$y = -\sin(2x)$ $-\pi$ to π $A=1$ $y = \sin x$

5. Graph $f(x) = -\sin(2x)$ for $-\pi \leq x \leq \pi$. Show all work as done in class.

amp = $|-1| = 1$
 Range = $[-1, 1]$
 freq = $\frac{2}{2\pi}$ (2 cycles in 2π)
 Per = $\frac{2\pi}{2} = \pi$ (length of cycle)
 Xsel = $\pi/4$

Pattern: $(0, 1, 0, -1, 0)$
 $(0, -1, 0, 1, 0)$

x	0	$\pi/4$	$\pi/2$	$3\pi/4$	π
y	0	-1	0	1	0

6. Graph $f(x) = \frac{1}{2} \cos(\frac{1}{2}x)$ for $0 \leq x \leq 2\pi$. Show all work as done in class.

amp = $|\frac{1}{2}| = \frac{1}{2}$
 Range = $[-\frac{1}{2}, \frac{1}{2}]$
 freq = $\frac{1/2}{2\pi} = \frac{1}{4}$ cycle in 2π
 Per = $\frac{2\pi}{1/2} = 4\pi$
 Xsel = $4\pi/4 = \pi$

Pattern: $(\frac{1}{2}, 0, -\frac{1}{2}, 0, \frac{1}{2})$
 $(\frac{1}{2}, 0, \frac{1}{2}, 0, \frac{1}{2})$

x	0	π	2π	3π	4π
y	$\frac{1}{2}$	0	$-\frac{1}{2}$	0	$\frac{1}{2}$

Feb 6-6:41 PM

Day 4: Graphing with changes in amplitude, frequency and period

Nov 10-8:36 PM

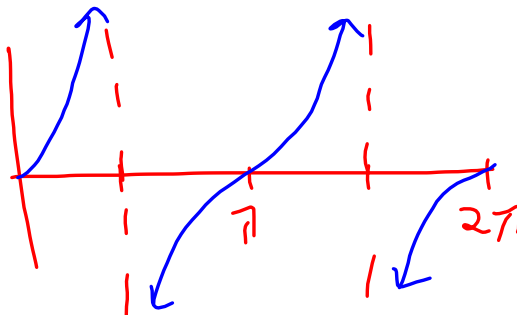
Warm-Up:

Regents Question:

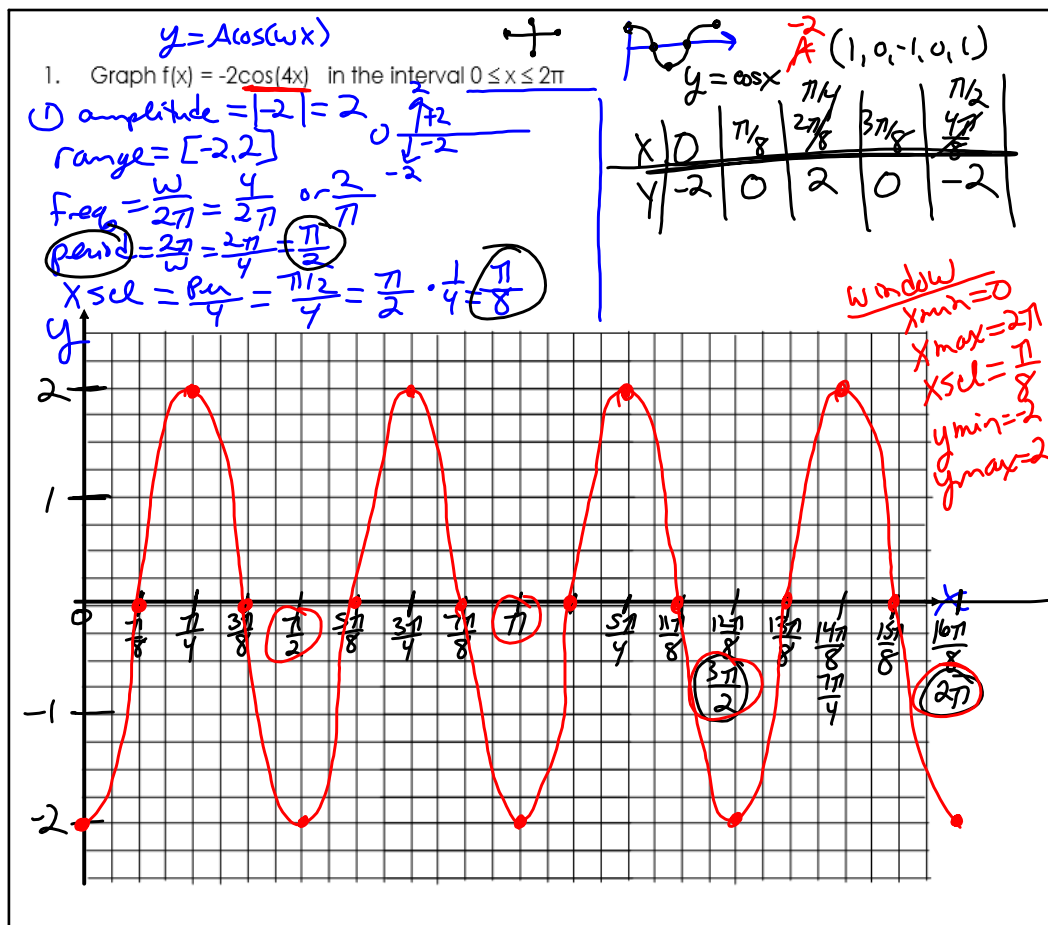
As x increases from 0 to $\pi/2$, the graph of the equation $y = \tan x$ will

- (1) increase from 0 to 2 (3) increase without limit
 (2) decrease from 0 to -2 (4) decrease without limit

$x: 0 \text{ to } 2\pi$
 $y: -5 \text{ to } 5$



Jan 14-8:29 PM



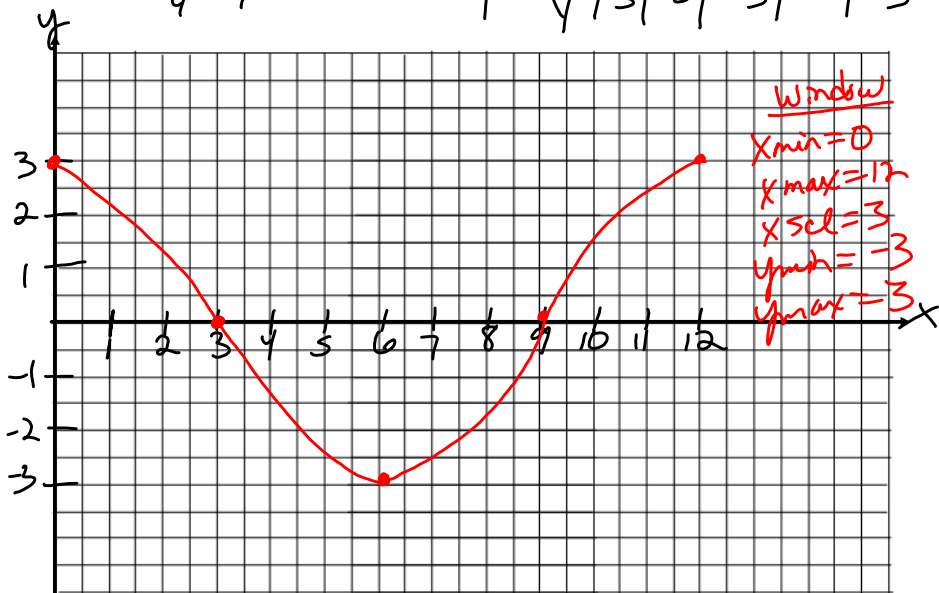
Nov 10-8:37 PM

2. Graph one complete cycle of the function $f(x) = 3 \cos(\pi/6 x)$.

$y = A \cos(\omega x)$
 $\text{amp} = |3| = 3$
 $\text{range} = [-3, 3]$
 $\text{freq} = \frac{\omega}{2\pi} = \frac{\pi/6}{2\pi} = \frac{1}{12}$
 $\text{per} = \frac{2\pi}{\omega} = \frac{2\pi}{\pi/6} = 12$
 $x_{\text{sel}} = \frac{\text{per}}{4} = \frac{12}{4} = 3$

$y = \cos x$
 $3(1, 0, -1, 0, 1) = 3, 0, -3, 0, 3$

x	0	3	6	9	12
y	3	0	-3	0	3



Nov 10-8:37 PM

Nov 10-8:31 PM