

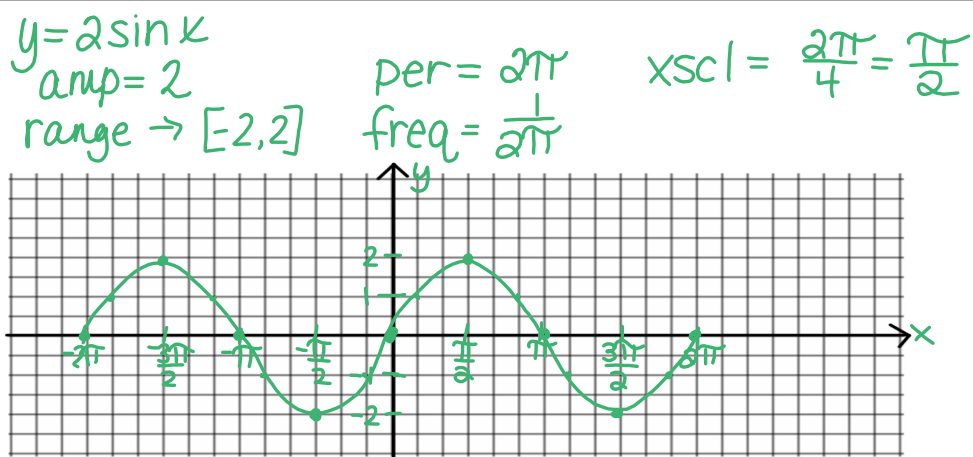
518 20. $y = 4\sin(\frac{1}{4}x + \frac{\pi}{8})$
 amp = 4
 per: $\frac{2\pi}{\frac{1}{4}} = 8\pi$
 ps: $-\frac{C}{b} = -\frac{\frac{\pi}{8}}{\frac{1}{4}} \Rightarrow ps = -\frac{\pi}{2}$

22. $y = -3\cos(4x - \pi) + 2$
 amp = 3
 per: $\frac{2\pi}{4} = \frac{\pi}{2}$ VS: 2
 ps: $-\frac{C}{b} = \frac{\pi}{4}$

24. $y = 5 - 2(\frac{\pi}{2}x + \frac{\pi}{2})$
 amp = 2
 per: $\frac{2\pi}{\frac{\pi}{2}} = 4$
 ps: $-\frac{C}{b} = -\frac{\frac{\pi}{2}}{\frac{\pi}{2}} \Rightarrow ps = -1$

Start the
Warm-up on
today's notes

Dec 23-8:49 AM



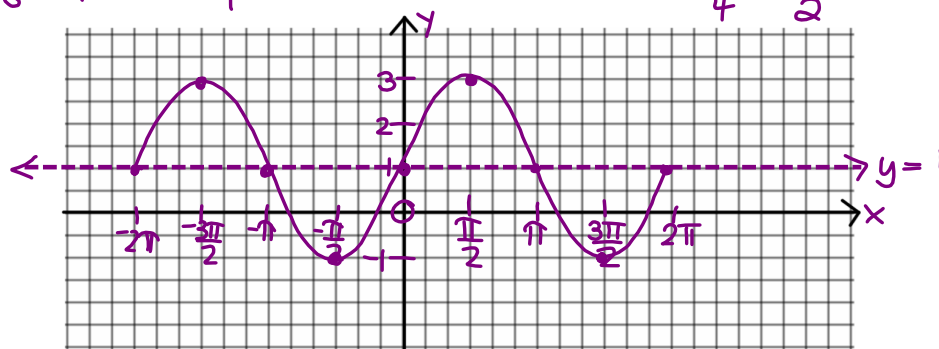
Jan 9-3:54 PM

$$y = 2\sin x + 1$$

amp 2
VS: 1

range $[-1, 3]$
per: 2π

freq $\frac{1}{2\pi}$
xsc1: $\frac{2\pi}{4} = \frac{\pi}{2}$



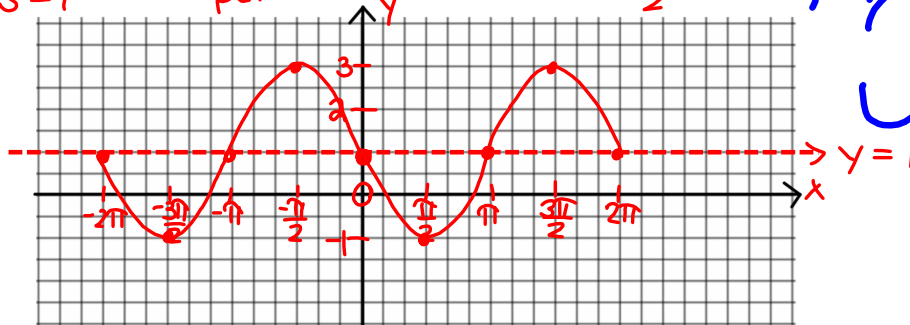
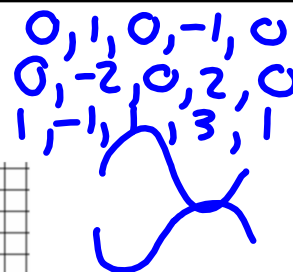
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$$y = -2\sin x + 1$$

amp = 2
VS = 1

range $[-1, 3]$
per 2π

freq $\frac{1}{2\pi}$
xsc1 $\frac{\pi}{2}$



Jan 9-3:54 PM

Warm-up: Given $y = 1.5\cos\left(\frac{\pi}{6}x + \frac{\pi}{3}\right) - 3$ find all of the following

Amp = $|1.5| = 1.5$

Period = $\frac{2\pi}{\frac{\pi}{6}} = 12$

vs = -3 (down 3)

Range = $[-4.5, -1.5]$

Frequency = $\frac{1}{12}$

ps = $\frac{-\frac{\pi}{3} \cdot 6}{\frac{\pi}{6} \cdot 6} = \frac{-2\pi}{\pi} = -2$

$[-1.5, 1.5] - 3$

$[-4.5, -1.5]$

Jan 17-4:26 PM

For all graphs, graph in the interval $[-2\pi, 2\pi]$

1. Graph $y = 3\sin(1/2x) - 1$

Amp = $|3| = 3$

Period = $\frac{2\pi}{\frac{1}{2}} = 4\pi$

$(0, 1, 0, -1, 0) \times 3$

VS = -1 down 1

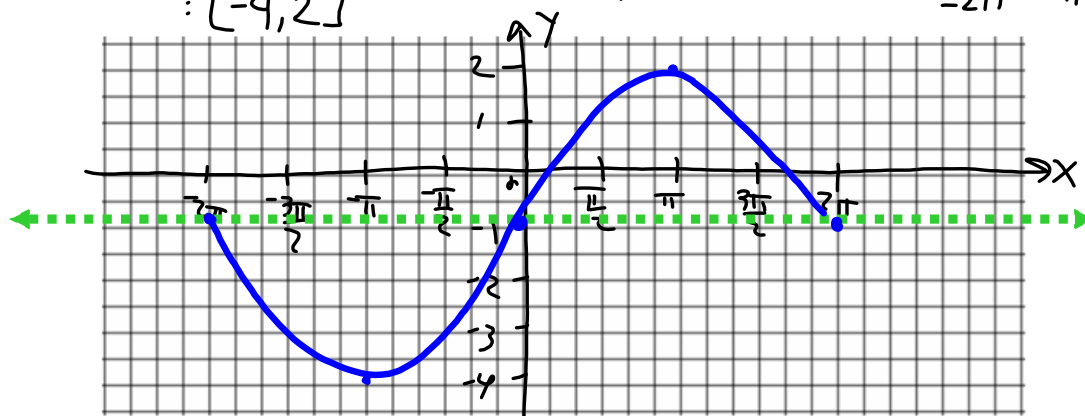
Frequency = $\frac{1}{4\pi}$

$(0, 3, 0, -3, 0) - 1$

Range = $[-3, 3] - 1$
 $[-4, 2]$

x scl = $\frac{4\pi}{4} = \pi$

$(-1, 2, -1, -4, -1)$
 $0 \quad \pi \quad 2\pi \quad -2\pi \quad -\pi \quad 0$



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2. Graph $y = -\cos(1/2x) + 1$

Amp = $| -1 | = 1$

VS = up

Range = $[-1, 1]$ add 1
 $[0, 2]$

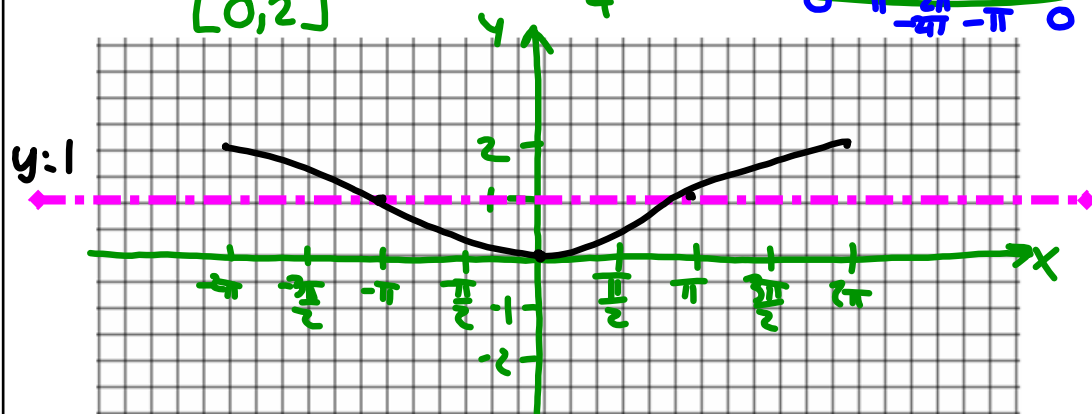
Period = $\frac{2\pi}{1/2} = 4\pi$ $(1, 0, -1, 0, 1) \times -1$

Frequency = $\frac{1}{4\pi}$

xsc1 = $\frac{4\pi}{4} = \pi$

$(-1, 0, 1, 0, -1) + 1$

$(0, 1, 2, 1, 0)$



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3. Graph $y = 2\cos(2x) + 1$

Amp = $| 2 | = 2$

VS = up

Range = $[-2, 2]$ add 1
 $[0, 3]$

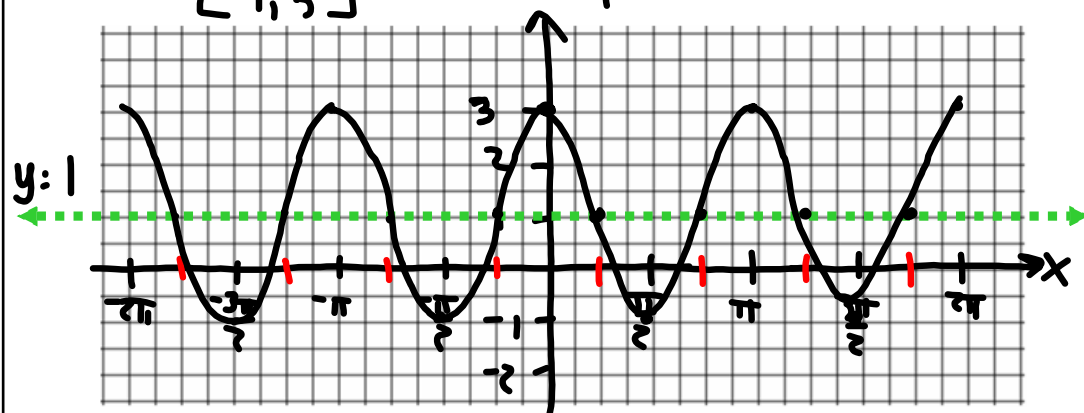
Period = $\frac{2\pi}{2} = \pi$ $(1, 0, -1, 0, 1) \times 2$

Frequency = $\frac{1}{\pi}$

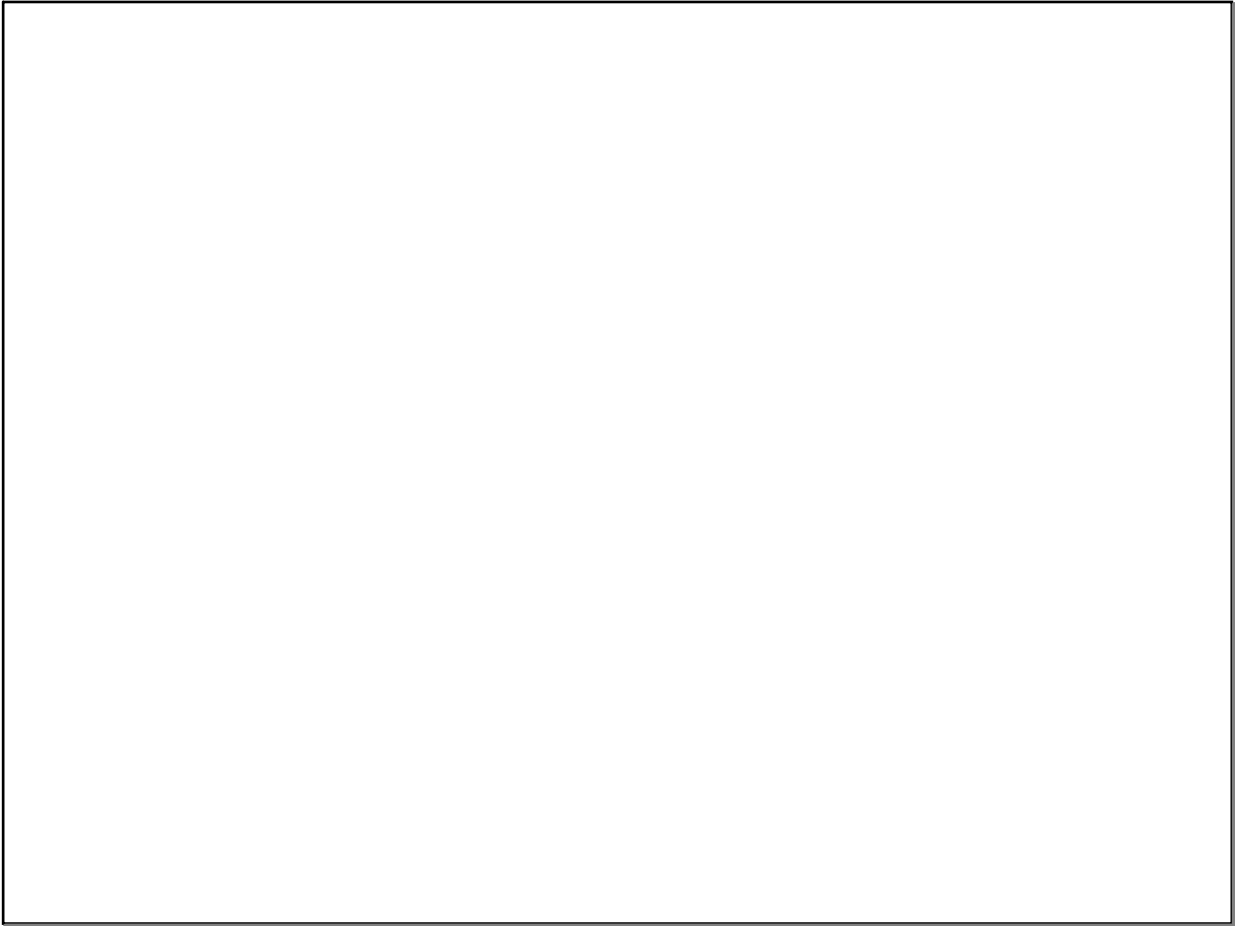
xsc1 = $\frac{\pi}{4}$

$(2, 0, -2, 0, 2) + 1$

$(3, 1, -1, 1, 3)$



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Jan 15-7:35 AM