

4.4 Graphing Sine and Cosine (cont.)

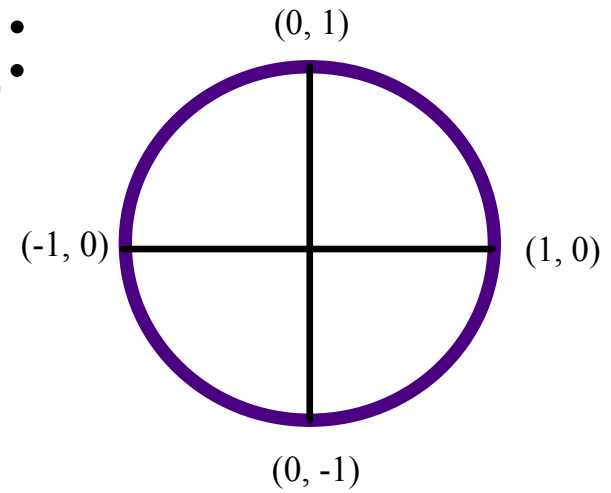
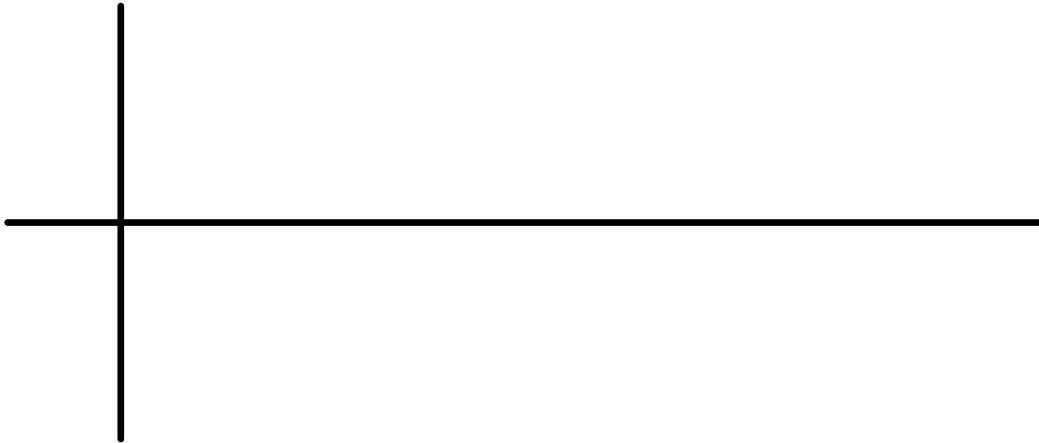
$$y = A \sin [k(\theta - c)] + d \quad y = A \cos [k(\theta - c)] + d$$

General Info:

$|A|$ = amplitude
 c = phase shift
 $2\pi \div k$ = period
Period $\div 4$ = interval
 d = vertical shift

Graph (from W.S. #1):

#20 $y = -2 \cos(3x)$



Amp.: _____ Period: _____

Interval: _____

Graphing With Phase Shifts

Helpful Hints:

- Find "c" - you will probably have to factor
- "c" will be your first point on the graph
- Use the interval to get the next 4 points
- "c" + the period = the last pt. on the graph

$$\frac{2\pi}{k} = \text{Period}$$

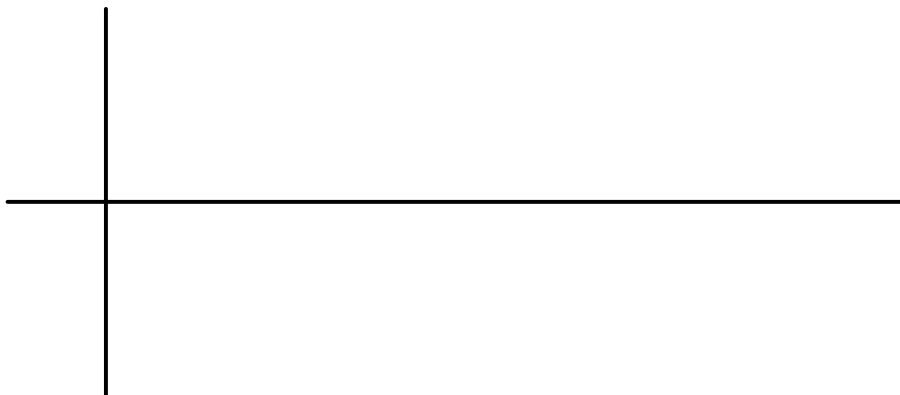
$$\frac{\text{period}}{4} = \text{interval}$$

Ex. 1 $y = \cos\left(\theta - \frac{\pi}{4}\right)$

Amp.: _____ Period: _____

Interval: _____ P.S.: _____

V.S.: _____



4.4 Graphing Sin and Cos (day 2).notebook

Ex. 2 $y = \sin\left(\frac{1}{2}x - \frac{\pi}{4}\right)$

Amp.: _____ Period: _____

Interval: _____ P.S.: _____

V.S.: _____



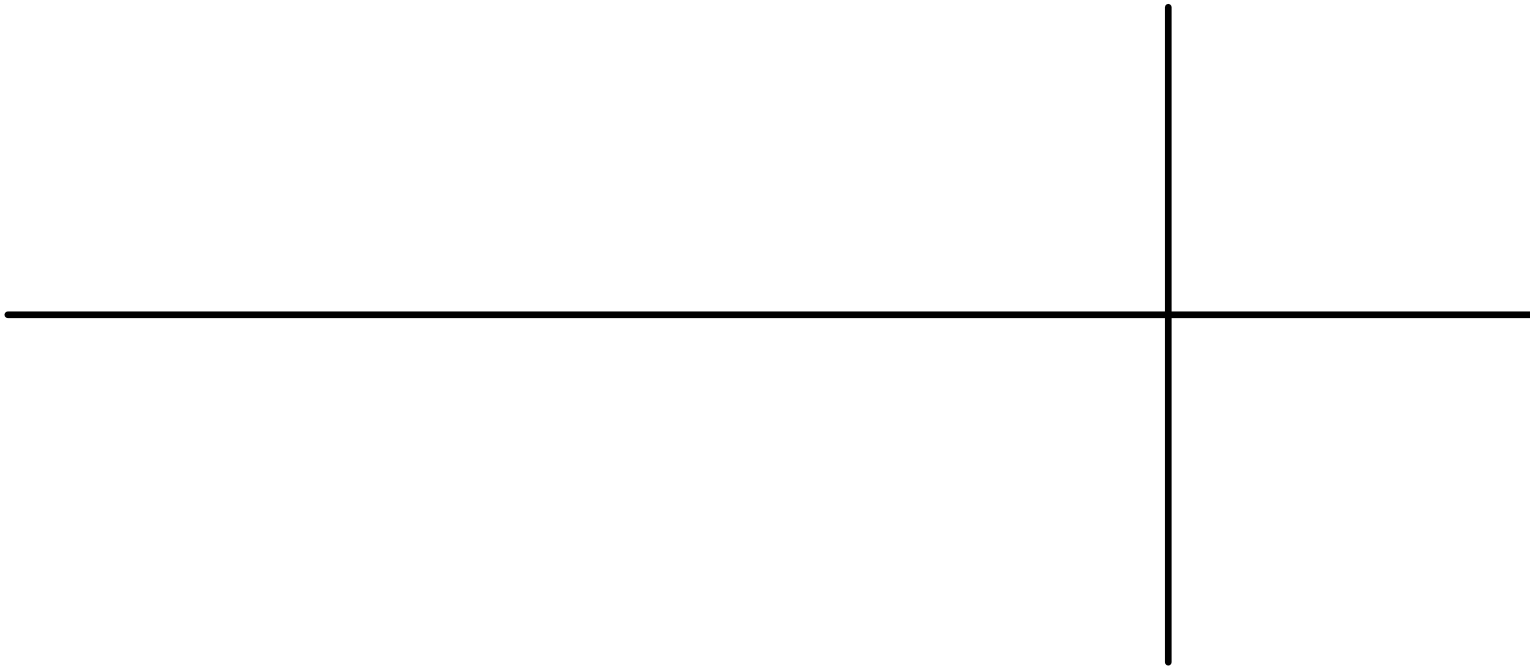
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Ex. 3 $y = 2 \cos(4\theta + 2\pi)$

Amp.: _____ Period: _____

Interval: _____ P.S.: _____

V.S.: _____



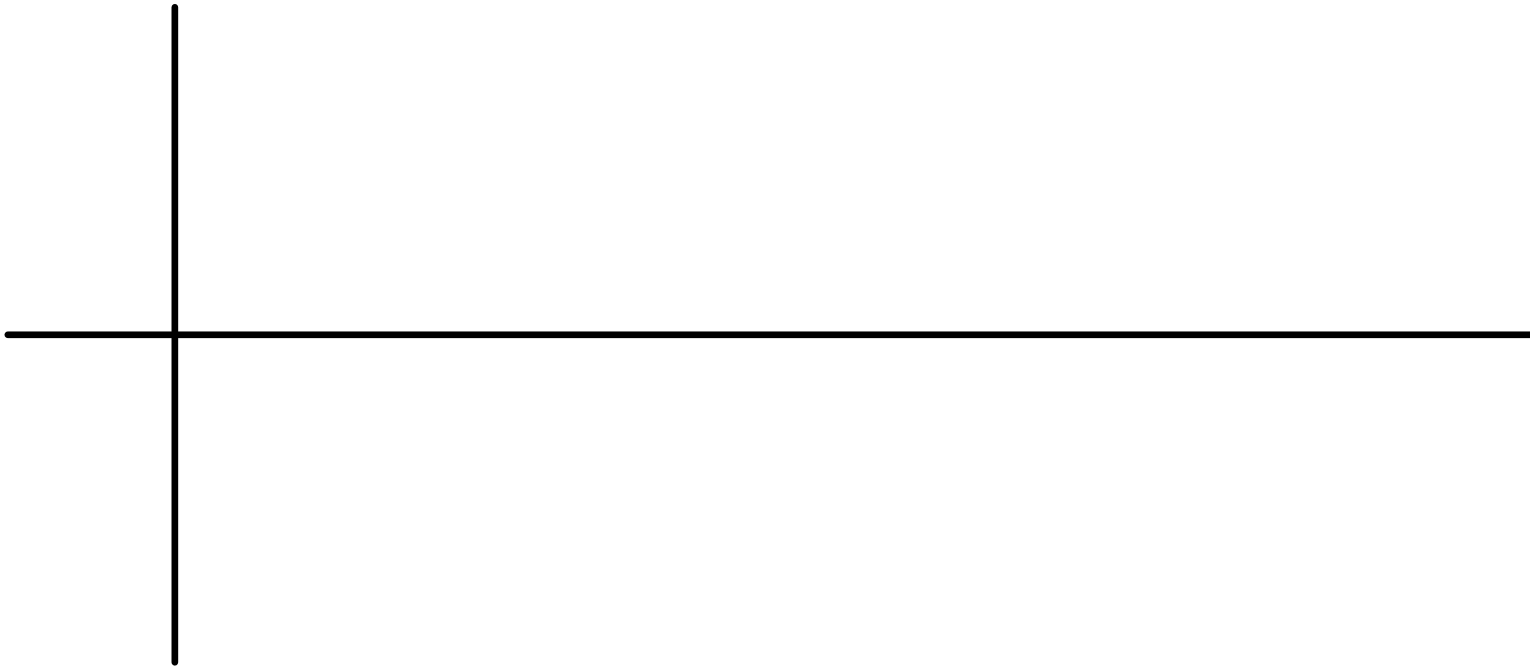
4.4 Graphing Sin and Cos (day 2).notebook

Ex. 4 $y = \frac{1}{2} \sin(4\theta - 2\pi) - 4$

Amp.: _____ Period: _____

Interval: _____ P.S.: _____

V.S.: _____



Assignment:

Graphing with Shifts W.S.