

Before we begin, are there any questions from last day's work?

**Collect Homework: 4.1.1 Tues. Apr.5
4.2.1 Thurs. Apr.7**

Today's Learning Goal(s):

By the end of the class, I will be able to:

- a) Sketch a trig function with 4 transformations.

Discuss the last Quiz (SWYK 4.1) *if everyone has written it!*

Discuss the advantages of:

- a) actually doing the homework questions
- b) having done a) above, then being prepared with a list of questions that need clarification when I ask, "Are there any questions from the homework?"
- c) reading over the lesson examples before a quiz or test

Return and Correct the Quiz ?

(See next slide first)

Not Done Yet (Spring 2016)

You had **7** nights to complete the homework from 4.1.1, and to ask for clarification before the quiz.

Lesson 4.1.1 Ex. 2

The point $P(-12, -5)$ lies on the terminal arm of θ . Determine the primary trig ratios.

Homework questions 4.4.2 #1) b,c,d,f

2) e,f,g,h

Quiz Question #1

The point $P(-2, 7)$ lies on the terminal arm of θ . Determine the primary trig ratios.

Lesson 4.1.1 Ex. 4

Angle θ is in standard position. If $\tan \theta = \frac{5}{7}$, determine $\sin \theta$ and $\cos \theta$.

Homework questions 4.4.2 #7) a-f

Quiz Question #2

2. Angle θ is in standard position. If $\sin \theta = \frac{-8}{9}$, determine $\cos \theta$.

4.6.1 Combined Transformations of Trigonometric Functions

$$y = a \sin(k(x-d)) + c \text{ and } y = a \cos(k(x-d)) + c$$

Date: Apr. 13/16

Ex. 1 Given $y = 3 \sin(2(x-60^\circ)) + 1$, describe the effects of a , k , d , c .

- a vertical stretch by a factor of 3
- k horizontal compression by a factor of 2 (the period will now be 180°)
- d horizontal translation of 60° to the right
- c vertical translation of 1 unit up

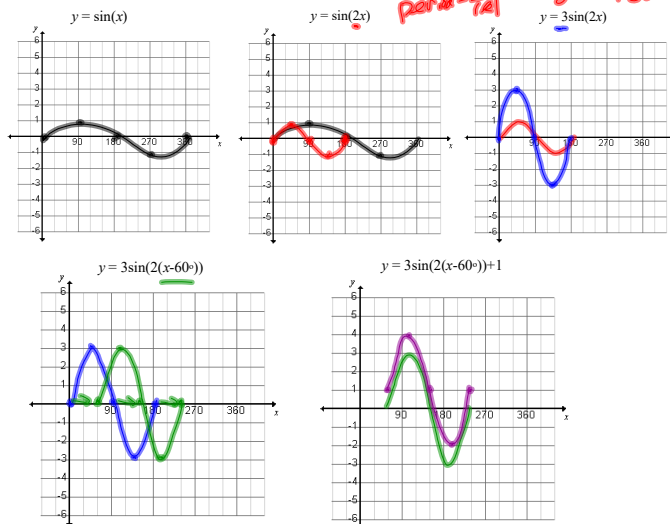
Ex. 2 Sketch $y = 3 \sin(2(x-60^\circ)) + 1$ by hand.

Method: 1. sketch the base function [$y = \sin x$ or $y = \cos x$]

2. apply any compressions and stretches and then sketch again.

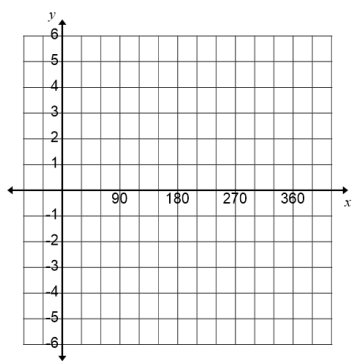
[use the key points: $0^\circ, 90^\circ, 180^\circ, 270^\circ, 360^\circ$]

3. apply any translations and sketch the final curve

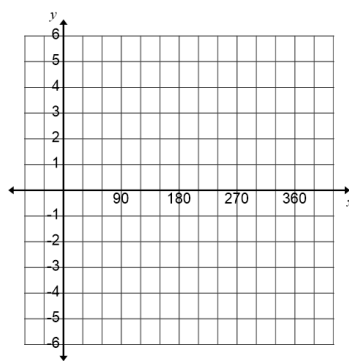


4.6.2 Practice Sketch by hand.

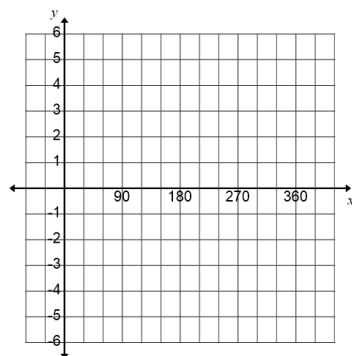
a) $y = 2 \sin(x - 90^\circ)$



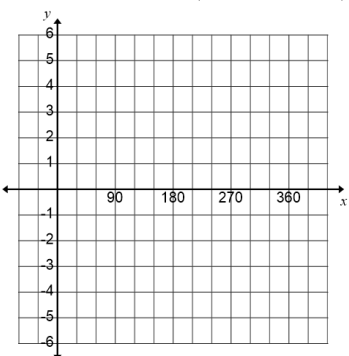
b) $y = \sin(3x) + 4$



c) $y = \cos(2(x + 30^\circ))$

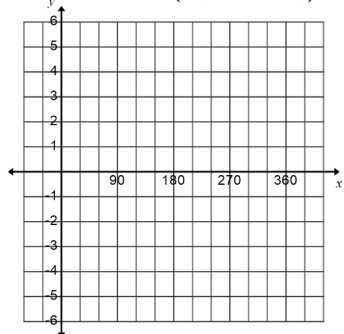


d) $y = 3 \sin(4(x - 60^\circ)) - 2$

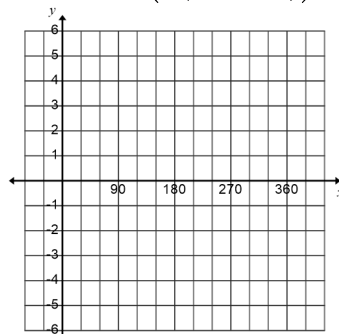


4.6.2 Practice Sketch by hand.

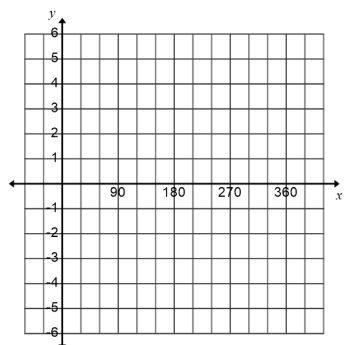
e) $y = -4 \sin(3(x + 60^\circ)) + 2$



f) $y = 6 \cos(4(x - 120^\circ))$



g) $y = -5 \cos(2(x - 45^\circ)) + 1$



h) $y = 4 \sin\left(\frac{1}{2}(x - 60^\circ)\right) + 2$

