Practice – 1

Once you feel confident with graphing trigonometric functions, complete problems 1 and 2. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Graph each of the following functions and state all transformations involved.

   a. $f(\theta) = \frac{1}{2}\cos\theta$

   b. $f(\theta) = \sin\frac{1}{4}\theta$

   c. $f(\theta) = \cos\left(\theta - \frac{\pi}{4}\right)$

   d. $f(\theta) = \sin\theta + 2$

2. Graph the function $f(\theta) = 2\cos\left[3\left(\theta + \frac{\pi}{3}\right)\right] - 1$ and state the following characteristics of the graph.

   a. amplitude

   b. period

   c. phase shift

   d. vertical displacement

   e. domain

   f. range