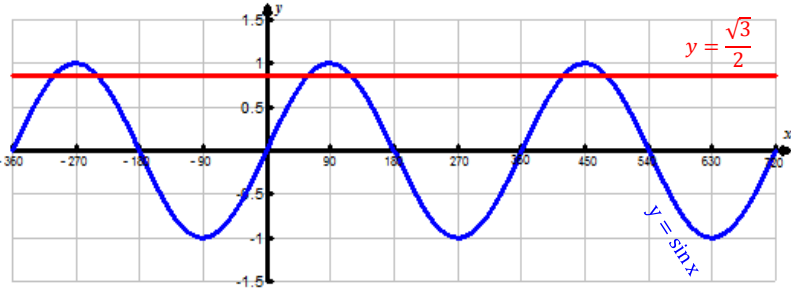
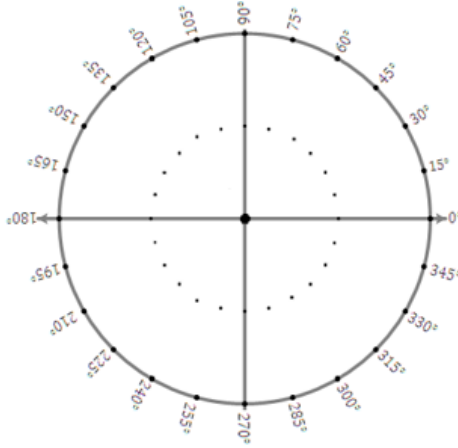


Find the general solution to the following in degrees using a roster solution and an algebraic solution.

1. $\sin(x) = \frac{\sqrt{3}}{2}$

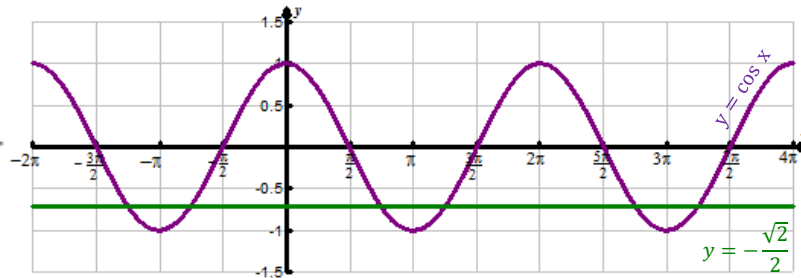
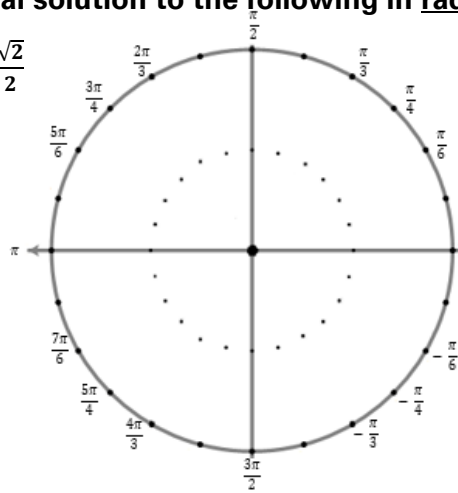


Roster Solution:

Algebraic Solution:

Find the general solution to the following in radians using a roster solution and an algebraic solution.

2. $\cos(x) = -\frac{\sqrt{2}}{2}$

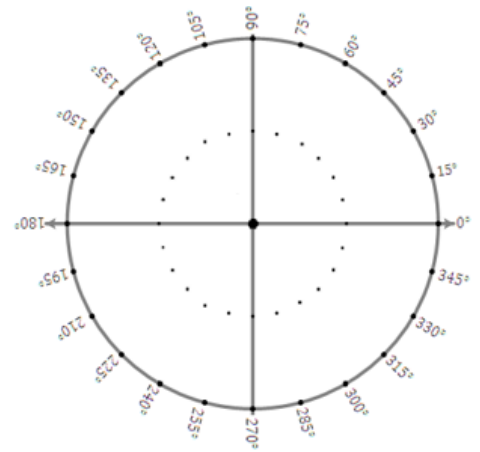
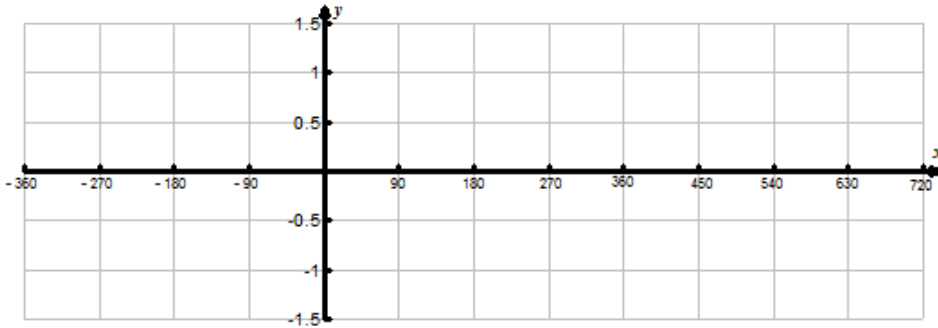


Roster Solution:

Algebraic Solution:

Find the general solution to the following in degrees using a roster solution and an algebraic solution.

3. $2\cos(x) + 4 = 3$

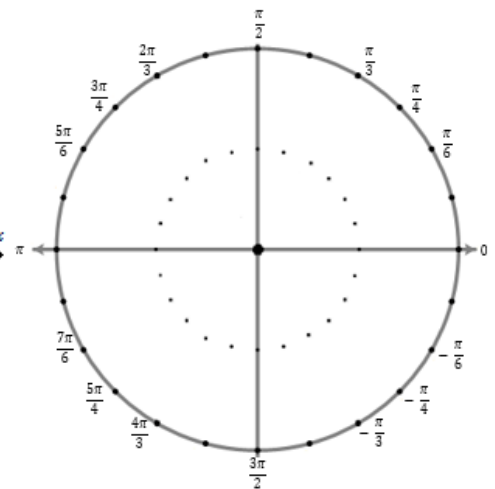
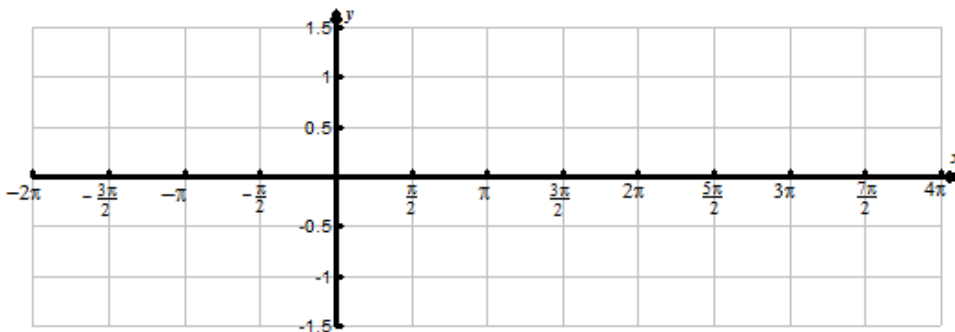


Roster Solution:

Algebraic Solution:

Find all solutions to the following problem in radians using a roster solution and an algebraic solution.

4. $2\sin(x) = -\sqrt{3}$

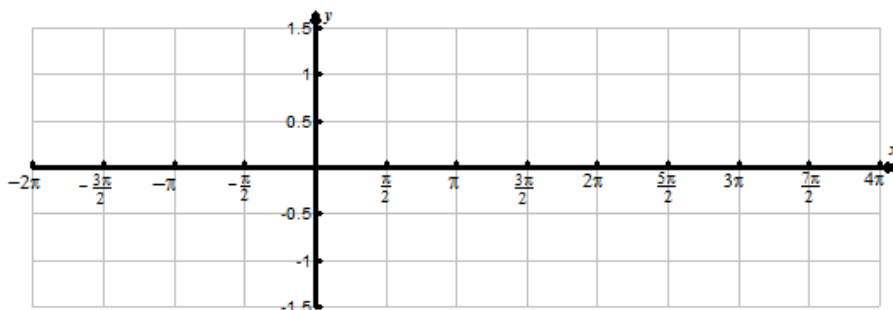
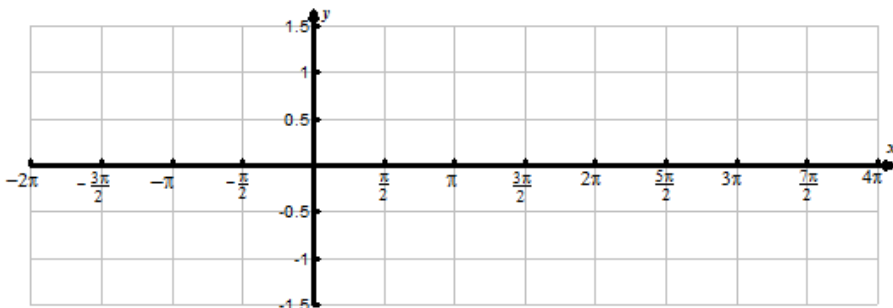
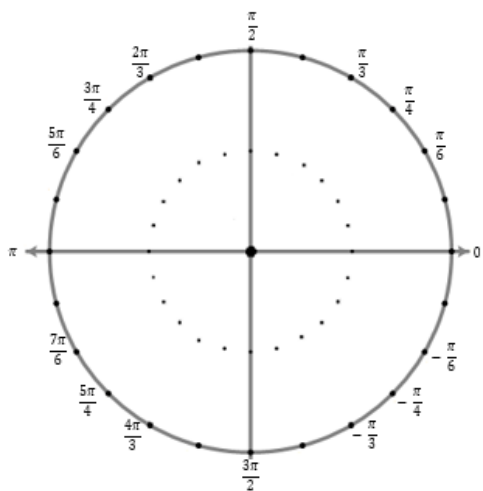


Roster Solution:

Algebraic Solution:

Find all solutions to the following problems in radians using a roster solution and an algebraic solution.

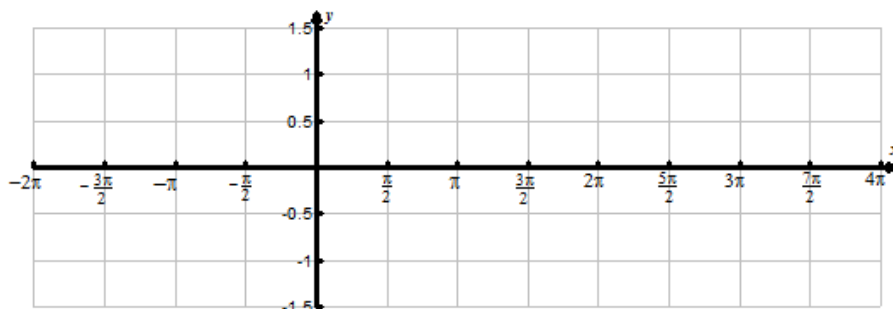
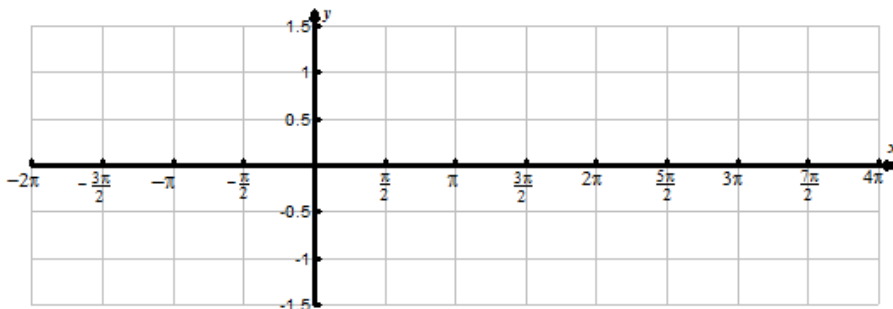
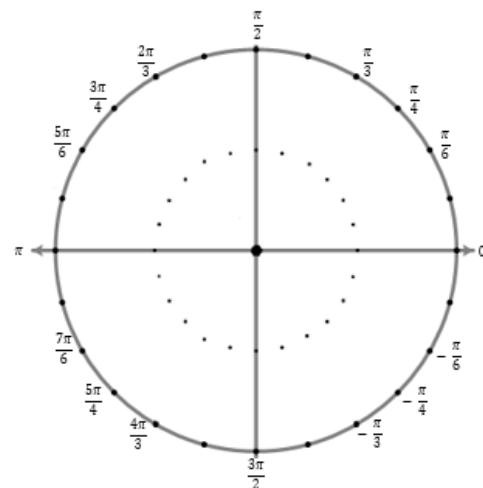
5. $\sin(2x) - \sin(x) = 0$



Roster Solution:

Algebraic Solution:

6. $\cos(2x) - \cos(x) = 0$



Roster Solution:

Algebraic Solution:

Using your graphing calculator solve the following.

7. The average high temperature of a day in Atlanta can be modeled by the following equation:

$$T = 20\sin(0.017(d + 1.816)) + 69$$

Where 'T' represents the temperature in Fahrenheit and 'd' is the day number of year (e.g. Feb. 2nd would be day 33)



- a. Using the model, what is the average high temperature in Atlanta on February 12th?
- b. Using the model, what 2 dates should the average high temperature be 82° F?

8. The height (in feet) above ground of a child in a swing can be given by the function with respect to time in seconds. (starting from the swings highest point)

$$h = 3\sin\left(\frac{2\pi}{3}(t + 0.75)\right) + 4$$



- a. Using the model, what is the height of the child after 2 seconds?
- b. Using the model, at what times is the height of the child 6 feet high?