Week 4 SI

1. For the following θ values, find the exact value of the expressions
   1. If θ = 135°, find , , and
   2. If θ = , find , , and .
2. Find the amplitude, phase shift, and period of the functions below
3. Read the following word problems and complete them
   1. Chart, line chart

      Description automatically generatedThe sound waves from the music playing in the room right now are moving in simple harmonic motion with a period of 6 seconds and amplitude of 3 cm. At t=0 seconds, its displacement from rest is -3cm, and initially move in the positive direction. Write an equation modeling this displacement as a function of time and draw a graph to represent the equation.
   2. Chart, line chart

      Description automatically generatedA buoy floating in the sea is bobbing in simple harmonic motion with period 4 seconds and amplitude 15 inches. Its displacement d from sea level at time t=0 seconds is 0 inches, and initially it moves downwards. Give the equation modeling the displacement as a function of t and graph the equation.
4. Chart, line chart

   Description automatically generatedGraph the following trigonometric functions
   1. )

Chart, line chart

Description automatically generated