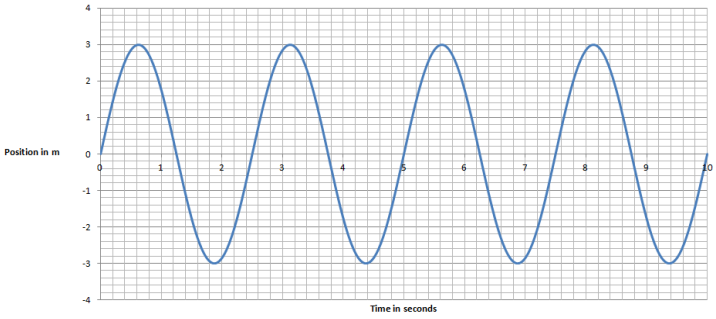
Practice 11.0 – Interpreting graphs of Simple Harmonic Motion Name_____

Position Graphs

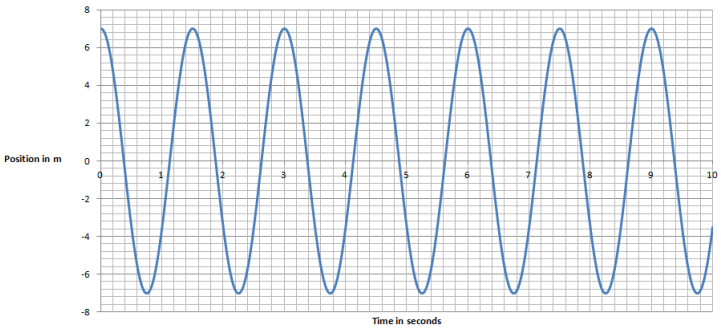


1. For this graph of position vs. time for an oscillator:

a. x_o = _____ T = _____ v_o =_____.

b. Write an equation for its motion: (x = ?)

c. Write an equation for its velocity: (v = ?)

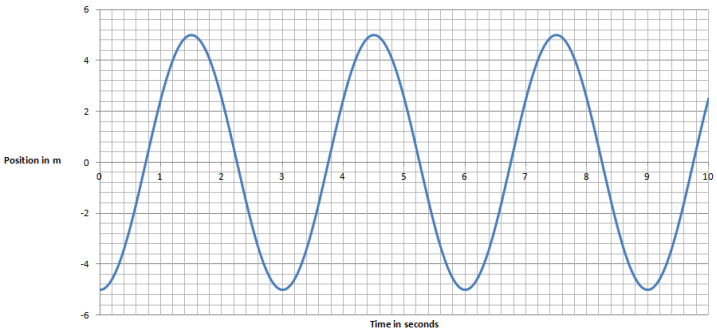


2. For this graph of position vs. time for an oscillator:

a. x_o = _____ T = _____ v_o =_____.

b. Write an equation for its motion: (x = ?)

c. Write an equation for its velocity: (v = ?)

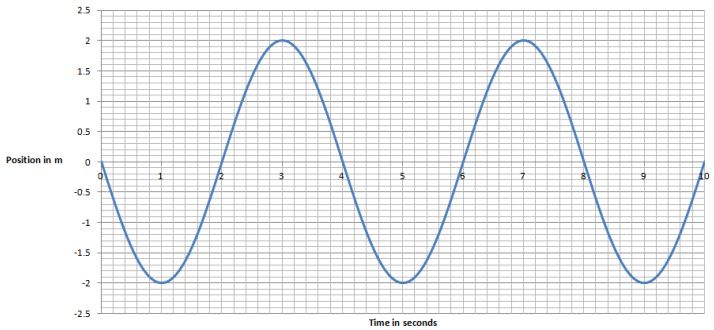


3. For this graph of position vs. time for an oscillator:

a. x_o = _____ T = _____ v_o =_____.

b. Write an equation for its motion: (x = ?)

c. Write an equation for its velocity: (v = ?)



4. For this graph of position vs. time for an oscillator:

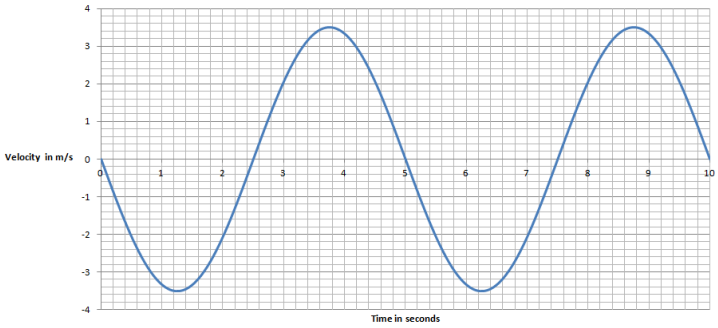
a. x_o = _____ T = _____ v_o =_____.

b. Write an equation for its motion: (x = ?)

c. Write an equation for its velocity: (v = ?)

d. What is the position, velocity and acceleration of the object at 3.00 s, 4.00 s, and 6.50 s?

Velocity Graphs:

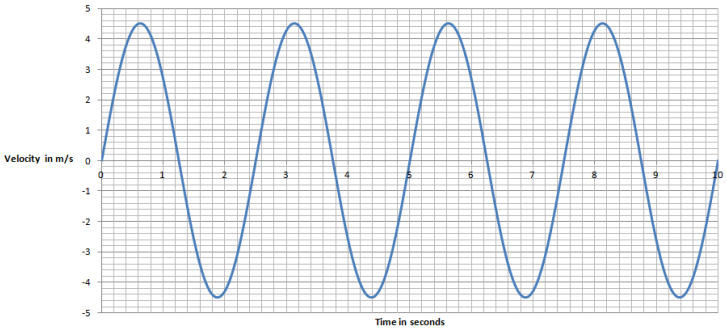


5. For this graph of velocity vs. time for an oscillator:

a. v_o = _____ T = _____ x_o =_____.

b. Write an equation for its velocity: (v = ?)

c. Write an equation for its position: (x = ?)

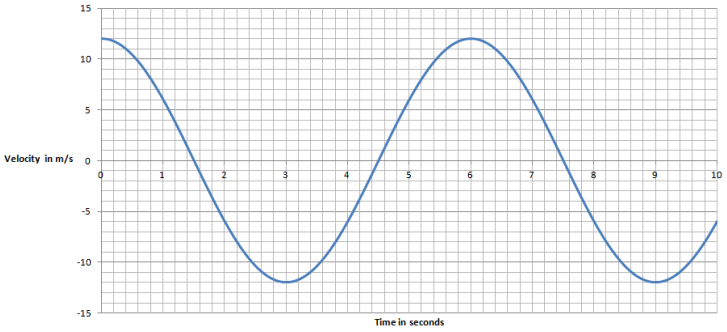


6. For this graph of velocity vs. time for an oscillator:

a. v_o = _____ T = _____ x_o =_____.

b. Write an equation for its velocity: (v = ?)

c. Write an equation for its position: (x = ?)

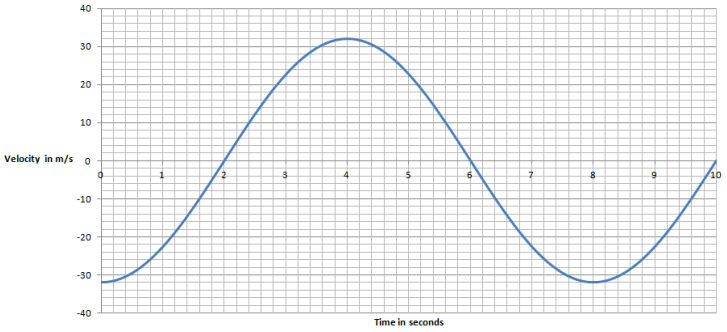


7. For this graph of velocity vs. time for an oscillator:

a. v_o = _____ T = _____ x_o =_____.

b. Write an equation for its velocity: (v = ?)

c. Write an equation for its position: (x = ?)



8. For this graph of velocity vs. time for an oscillator:

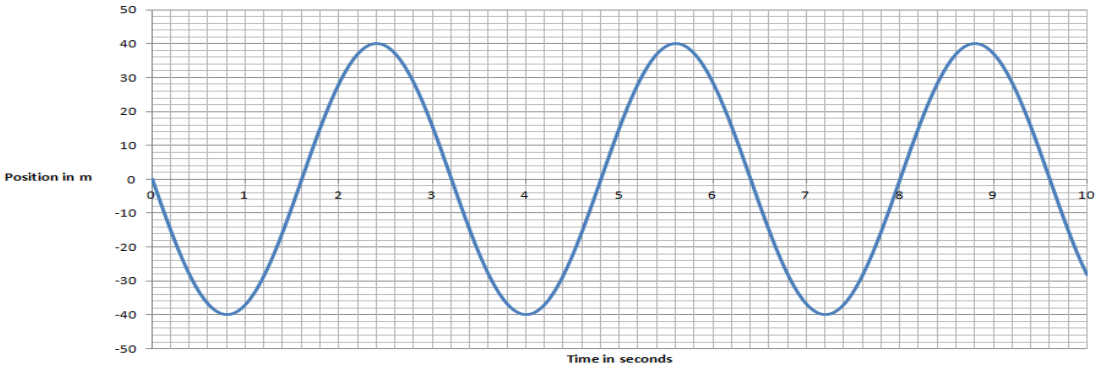
a. v_o = _____ T = _____ x_o =_____.

b. Write an equation for its velocity: (v = ?)

c. Write an equation for its position: (x = ?)

d. What is the position, velocity and acceleration of the mass at 2.00 s? at 5.00 s?

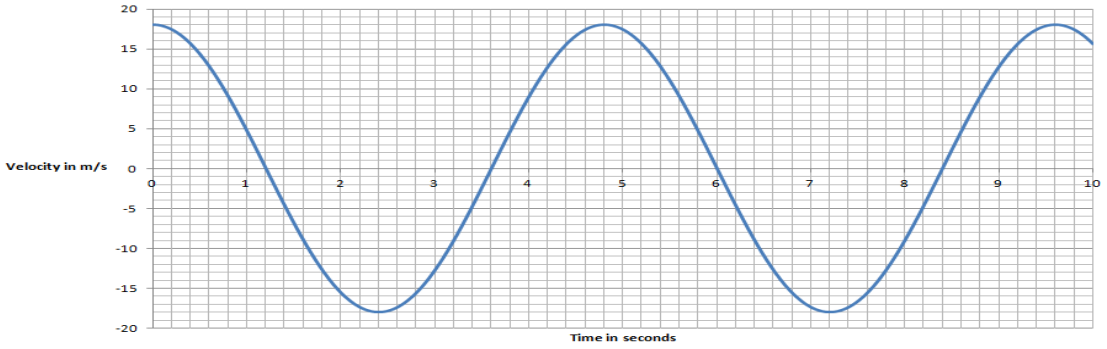
9. For this graph of Position vs. Time:



Fill in the table qualitatively: (+ or - or 0)

Time	x	v	a
2.4 s			
7.2 s			
1.6 s			
3.0 s			
7.6 s			
6.5 s			
5.0 s			
3.2 s			

10. For this graph of Velocity vs. Time:



Fill in the table qualitatively: (+ or - or 0)

Time	x	v	a
3.2 s			
0.8 s			
1.6 s			
4.8 s			
6.0 s			
7.2 s			
8.4 s			
4.0 s			