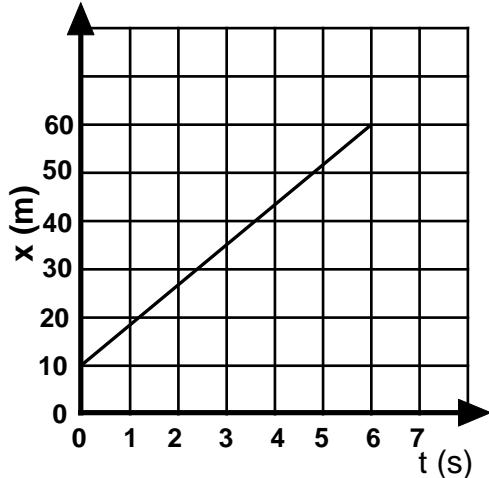


Constant Velocity Particle Model: Review Sheet

1. Consider the following position vs. time graph.

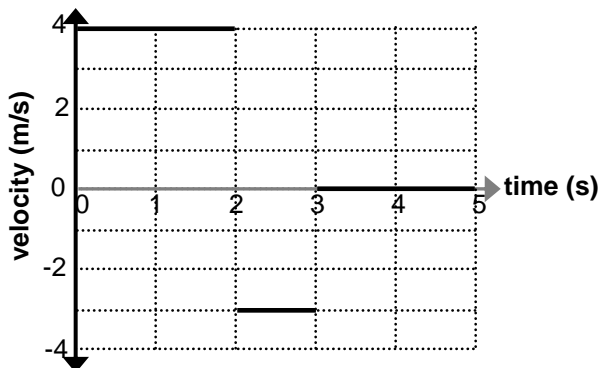


a. Determine the average velocity of the object.

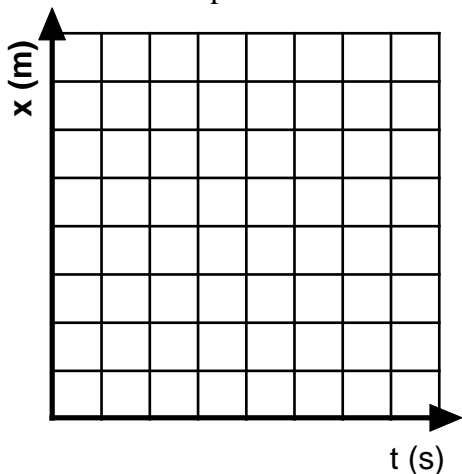
b. Write a mathematical expression to describe the motion of the object.

2. Shown below is a velocity vs. time graph for an object.

a. Describe the motion of the object.



b. Draw a corresponding position vs. time graph. Number the axes. You may assume the object starts from zero position.



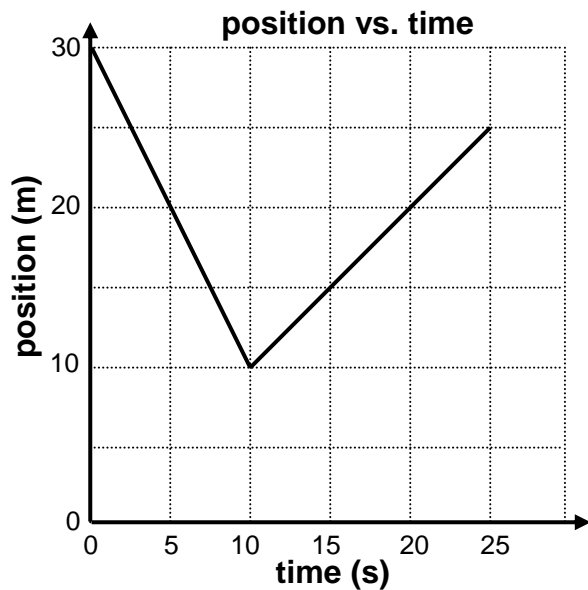
c. How far did the object travel in the interval $t = 1$ s to $t = 2$ s?

d. Find the displacement from $t = 0$ s to $t = 5$ s. Explain how you got your answer.

e. Find the average velocity from $t = 0$ s to $t = 5$ s. Explain how you got your answer.

f. Find the average speed from $t = 0$ s to $t = 5$ s. Explain how you got your answer.

3. A bird travels toward zero position, then suddenly reverses direction.



a. Find the average velocity from $t = 0$ s to $t = 10$ s.

b. Find the average velocity from $t = 10$ s to $t = 20$ s.

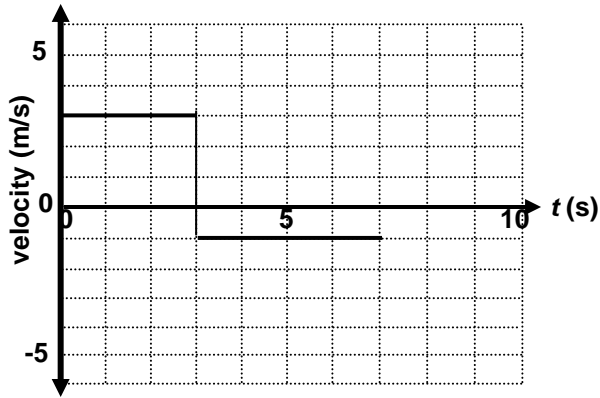
c. Determine the average speed from $t = 0$ s to $t = 20$ s.

d. Determine the average velocity from $t = 0$ s to $t = 20$ s.

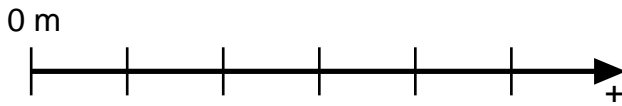
e. Find the velocity at $t = 5$ seconds.

4. A basketball initially travels at 3 meters per second for 3 seconds:

a. Describe the motion of the ball after $t = 3$ seconds.



b. Draw a quantitative motion map that represents the motion of the object.



c. How far did the ball travel from $t = 3$ s to $t = 7$ s?

5. A racecar reaches a speed of 95 m/s after it is 450 meters past the starting line. If the car travels at a constant speed of 95 m/s for the next 12.5 s, how far will the car be from the starting line? Use the appropriate mathematical expression and show how units cancel.