

Chapter 2.1-2.4: Linear Motion 1

Text:

Chapter 2.1-2.4

Think and Explain: 1-3

Think and Solve: ---

Vocabulary:

distance, time, constant speed, constant velocity, average, instantaneous, magnitude, vector, scalar, acceleration

Equations:

$$\bar{v} = \frac{d}{t} \quad a = \frac{v_f - v_i}{t}$$

Conversions:

1 km = 1000 m

1 m = 100 cm

1 hr = 3600 s

Key Objectives:*Concepts*

- Define and correctly use the terms listed above.
- State the units of distance, time, speed (velocity), and acceleration.
- Determine what quantity is represented by the slope of a position vs. time graph.
- Determine what quantity is represented by the slope of a velocity vs. time graph.
- Distinguish between constant speed, constant velocity and constant acceleration.
- Recognize and be able to sketch the position vs. time and velocity vs. time graphs for an object that changes direction.
- Given a position vs. time graph, determine the velocity from the slope of the graph.
- Given a velocity vs. time graph, determine the acceleration from the slope of the graph.
- Given a straight line graph, be able to correctly write the equation of the line with correct variables and units

Problem Solving

- Recognize what equation to use in a word problem.
- Correctly use each of the equations listed above.
- Convert between meters, km and cm.
- Convert between hours, minutes and seconds.