

Assignment 3.02: Velocity vs Time Graphs

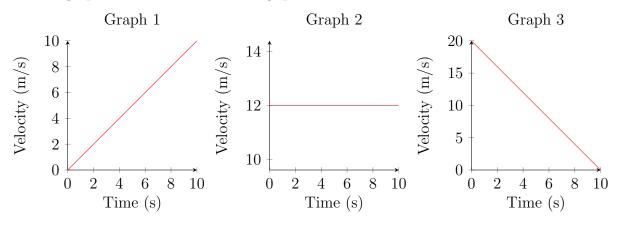
Graph 1: Velocity vs Time for Two People 25 20 Velocity (m/s) 15 10 5 0 Zack -5– Natalia -105 10 15 20

Time (s)

- 1. Use Graph 1 to determine the following:
 - (a) Who is moving faster at t=5 seconds?
 - (b) How far has Natalia traveled by t=10 seconds?
 - (c) What is Zack's acceleration?
 - (d) What is Natalia's acceleration?
 - (e) Assuming both people start in the same place, who travels farther? Explain your reasoning.
 - (f) Graph 1 describes a race between Zack and Natalia. In at least 4 complete sentences, describe what happened during this race.



2. Use the graphs to answer the following questions:



- (a) Graph 1:
 - i. Describe the motion of the object in one sentence.
 - ii. Determine the acceleration of the object.
 - iii. Determine the distance traveled in 10 seconds.
- (b) Graph 2:
 - i. Describe the motion of the object in one sentence.
 - ii. Determine the acceleration of the object.
 - iii. Determine the distance traveled in 10 seconds.
- (c) Graph 3:
 - i. Describe the motion of the object in one sentence.
 - ii. Determine the acceleration of the object.
 - iii. Determine the distance traveled in 10 seconds.



- 3. Sketch a graph that corresponds to each situation below:
 - (a) A car is parked.
 - (b) A truck drives forward 10 meters at a constant speed, then stops.
 - (c) A lion runs forward, then stops, then walks back to where it started.

