

Graphing Review Worksheet - ANSWERS

Directions: Use the graph on the previous page to answer the following questions.

1. How far will vehicle A travel after 30 minutes?

35 miles

2. What is the rate of change (speed) of vehicle A during its first hour of travel?

$$\text{ROC} = \frac{\Delta V}{\Delta T} = \frac{V_2 - V_1}{T_2 - T_1} = \frac{70 - 0 \text{ mi}}{1 - 0 \text{ hr}} = 70 \text{ mi/hr}$$

3. In two hours, how far will vehicle A have traveled?

140 miles

4. What does the straight line on a graph tell you about the rate of change of vehicle A?

The rate is constant.

5. What is the rate of change of vehicle B during the first hour of travel?

$$\text{ROC} = \frac{\Delta V}{\Delta T} = \frac{V_2 - V_1}{T_2 - T_1} = \frac{40 - 0 \text{ mi}}{1 - 0 \text{ hr}} = 40 \text{ mi/hr}$$

6. Between the second and third hour of traveling, what is the rate of change of vehicle B?

$$\text{ROC} = \frac{\Delta V}{\Delta T} = \frac{V_2 - V_1}{T_2 - T_1} = \frac{70 - 60 \text{ mi}}{3 - 2 \text{ hr}} = 10 \text{ mi/hr}$$

7. How long will it take vehicle C to travel 25 miles?

1.5 hours

8. What happens to the rate of change of vehicle C between the third and fourth hour of traveling?

The rate is constant at 0 mi/hr (unaffected relationship)

9. Which variable is independent?

time

10. Explain how you can look at this graph and immediately know which vehicle has the greatest rate of change.

The steeper the line, the faster the rate of change. Vehicle A is moving fastest as indicated by its steepest line.