

Name: _____

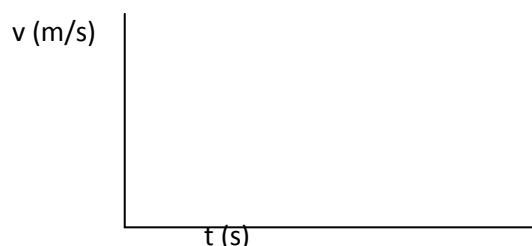
Acceleration Practice Worksheet

Remember that acceleration is any change in velocity. (Changes in velocity include changes in direction!)

1. How many accelerators are there in a car? Name/describe them.

2. James and Chris are playing out in the desert. Suddenly, they see a rattle snake. Rattle snakes are not very fast - they can only move at 3 mi/hr. James and Chris both found out the day before in PE class that they can run a distance of 4 miles in 0.5 hours.
 - a. Can they outrun the rattle snake? Why or why not?

 - b. When Chris began to run, he started off from rest, sped up, went at a high constant speed, and began to slow down once he reached his house. Sketch a velocity graph for Chris.



Name: _____

3. A bus is moving at 20 m/s. The bus starts to break, and finally reaches a speed of 0 m/s. The bus took 5 seconds to stop.

a. Sketch a dot map for this situation.

b. Which of the following ways would be the correct way to find the acceleration of the bus? Explain how you know.

a. $a = (0 - 20 \text{ m/s})/5\text{s}$

b. $a = 5\text{s} * (20 \text{ m/s})$

c. $a = (20\text{m/s} - 0)/5\text{s}$

d. $a = 5\text{s} / (20 \text{ m/s})$

Explanation:

4. NASA is planning on sending astronauts to Mars. If the acceleration due to gravity on mars is 7 m/s/s, how long will it take a falling meteor to reach a velocity of 28 m/s? Show your work.

5. On earth, things accelerate at 10 m/s/s. What would be the speed of a falling penny after 15 second? Show your work.

Name: _____

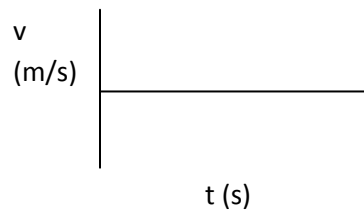
6. A bear spies some honey and takes off from rest, accelerating at the rate of 2.0 mi/hr/s. The bear takes 3 seconds to get to the honey.

a. Sketch a dot map for this situation.



b. What was the fastest velocity of the bear? Show your work.

c. Sketch the shape of a velocity graph for the bear.



7. On Earth, things accelerate at 10 m/s/s.

What would be the velocity of a falling penny after these times?

Time	Velocity
1s	
2s	
3s	
7s	

Name: _____

8. On the moon, things accelerate at 3 m/s/s .

What would be the velocity of a falling penny after these times?

Time	Velocity
1s	
2s	
3s	
7s	

9. Amanda says that "All things on earth fall at the same speed." Gabby and George disagree - they say that "Some things fall faster than others." Who do you agree with? Why?

10. If you were to take the quiz on motion tomorrow, what would you most need to study. Why?