Motion, Speed, and Acceleration Review Guide

Use this guide to test your understanding of the concepts we covered. The concepts may be described differently on the quiz so make sure you understand the concept and not just the answer. You can always ask yourself "How do I know?"

1. Motion describes a change in_____.

2. To find the speed of an object in motion, what 2 measurements do you need to know?

3. What is the formula showing the relationship between speed, time and distance?

4. Draw the speed triangle to help you use the equation even if you know the speed but want to find how far an object will travel or how long it will take to move a certain distance.

5. How do you find the speed of an object using a distance vs. time graph?

6. What does a horizontal (flat) line on a distance vs. time graph mean?

7. What's the difference between speed and velocity? Give an example for each.

8. What is change in velocity over time called? Give an example of from your own experience.

9. Why are initial and final velocity needed to calculate acceleration?

10. What does the graph line on a velocity vs. time graph represent?

11. Zach knows his friend can run 100 meters in 7 seconds. What 2 ways could he use this information to describe the speed of his friend's motion?

12. Sydney sits in a moving car. As she looks out the window, she sees Ashlee in a car right next to hers. When she looks again, the other car is still right next to hers. What can you say about the speed of each car?

13. Jake walks 200 m in 100 sec. moving at different speeds. Dividing 200 m by 100 sec. gives you Jake's_____.

14. Jeremy is riding a BMX bicycle in a race. He begins to pedal harder. What do you predict will happen to his speed? How do you know?

15. If Markus is traveling 15 m/sec, how long will it take him to run 100 meters?

16. What is speed in a specific direction called?

17. What does acceleration measure?

18. A change in position over time is called _____.

19. Alexis is watching a friend run in a race. What does she need to know to find her friend's speed?

20. Scott walks 1 mile west. Brock walks one mile east in the same amount of time. What can you say about their velocities?

21. What is happening to an object if it has zero acceleration?

22. How would the graph line look on a velocity vs. time graph is the object had zero acceleration?

23. If you subtract an object's initial velocity from its final velocity and divide by the time it took to change velocity, what are they finding?

24. Mariah is at track practice. Since there are lines marked on the track, we were able to collect the data below. Use this data to create a graph on the grid provided that can be used to show speed; label each axis and title the graph.

    a. Determine Mariah's average speed.

    b. Was her speed constant over the entire time interval? How do you know?

Mariah's position at specific times while running	
Time (sec.)	**Position (m)**
0	0
7	40
14	80
20	145
26	210
30	253