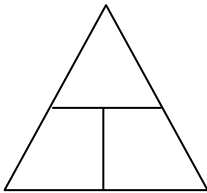


## Let's Get Moving!

### Show What You Know

1. Motion of an object can be described based on three factors: the \_\_\_\_\_ of the object, the \_\_\_\_\_ of the motion, and its \_\_\_\_\_ as it relates to another object. The length an object moves through its motion is called \_\_\_\_\_.
2. The \_\_\_\_\_ of the place or object describes its position.
3. To accurately describe a position and be able to find it, you should use one of the following: a \_\_\_\_\_ point or the geographic coordinates (\_\_\_\_\_ and \_\_\_\_\_).
4. A \_\_\_\_\_ point would be a location to which you compare another location.
5. When an object changes position over time relative to a reference point, the object is said to be in \_\_\_\_\_.
6. The motion of an object is always judged with respect to some other \_\_\_\_\_ or \_\_\_\_\_.
7. Sometimes how an observer sees motion depends on how it compares to their own motion and the \_\_\_\_\_--\_\_\_\_\_--\_\_\_\_\_ of the person observing a position or motion.
8. The location and motion of the observer may alter the \_\_\_\_\_ of reference, and the observer would observe the motion relative to their own position.
9. There are two ways distance can be measured...along a \_\_\_\_\_ line/path like if you were to fly in a plane from one state to another or the \_\_\_\_\_ length of the path as if you were to walk a designated trail on a hike. This length/distance you move through your motion could vary depending on how it is measured.
10. The \_\_\_\_\_ of a moving object is a measure of how quickly or slowly the object gets from one place to another or changes position or the distance traveled per unit time.
11. Speed uses a formula  $S = \frac{D}{T}$  and uses the common units: mph, km/hr, m/s
12. This formula can be used to calculate any of the three unknowns...speed, distance or time. Use this triangle to show how with the 3 different formulas.

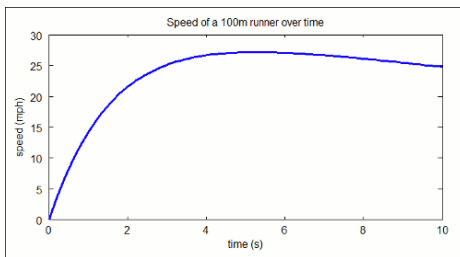


13. There are 3 types of speed you might be asked to calculate...describe how you would figure out each:
  - Average speed-- \_\_\_\_\_
  - Constant speed-- \_\_\_\_\_
  - Variable speed-- \_\_\_\_\_

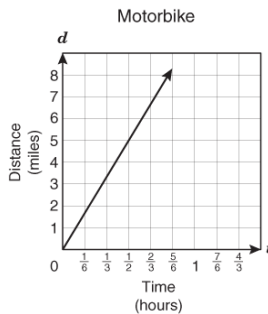
14. To illustrate motion on a graph, a \_\_\_\_\_ line on a distance/time graph represents a constant speed.
15. To illustrate motion on a graph, a \_\_\_\_\_ line in a distance/time graph represents varied speed over a certain time.

**Practice: Match the term with the concept being implied or demonstrated.**

- \_\_\_\_\_ 1. Raleigh, NC is about 262 miles SW of our Nation's capital, Washington DC.
- \_\_\_\_\_ 2.  $38.8951^\circ$  N,  $77.0367^\circ$  W Washington, D.C., Coordinates
- \_\_\_\_\_ 3. I rode 26.2 miles on my bicycle.
- \_\_\_\_\_ 4. If a car travels 400m in 20 seconds how fast is it going?
- \_\_\_\_\_ 5.



\_\_\_\_\_ 6.



- A. Speed
- B. Latitude and longitude
- C. Constant speed
- D. Reference point
- E. Variable motion
- F. Distance

7. Have you ever been sitting at a red light with a bus stopped next to you? You're kind of daydreaming, looking out the window at the side of the bus, when all of a sudden it feels like your car is rolling backwards! Then you realize that it was just the bus moving *forwards*. Why does this happen based on what you have learned about motion?