

Speed and Velocity
Formative Assessment

Name _____
 Date _____ Block _____

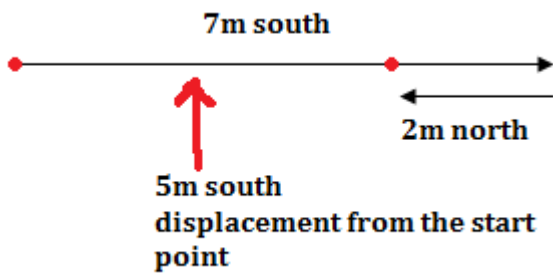
Answer completely in the space provided. You may do any work on the back.

1. Are you moving? What is your frame of reference?

Yes...sun, moon, car driving by, etc.
No...ground, chair, parked car, etc.
 Remember that motion is relative, so if you are not moving if you are not moving relative to an object, you are moving if you are moving relative to an object. The frame of reference is always considered at rest.

2. A boy starts from point A and walks 7 meters toward the south, then turns back and walks 2 meters toward the north. What is the boy's displacement from point A?

5m south



3. What is the difference between instantaneous and average speed?

Instantaneous is right now, average is total dist/total time

4. How is velocity different from speed?

Velocity has a direction

5. Chris is walking at 2 m/s. Kelsey is walking towards him at 1 m/s. What is Kelsey's velocity relative to Chris?

3 m/s; add speeds when object's are moving in opposite directions

6. Ashton just took a trip that covered 240 km in 5 hours. What was her average speed?

48 km/h; $v=d/t$ $v=240km/5h$

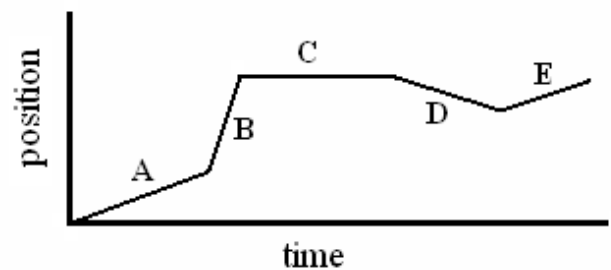
7. A runner maintains an average velocity of 3 m/s for 30 seconds. How far did the runner travel?

90 m; $d=v \cdot t$ $d= 3 \text{ m/s} \cdot 30 \text{ s}$

8. A car travels at an average speed of 70 mi/h from Ohio to Nevada over a distance of 2,100 miles. How much time did it take to complete this trip?

30 h; $t=d/v$ $t=2100 \text{ mi}/70 \text{ mi/h}$

Use this graph for #9 and 10



9. Where on the graph is the object not moving?

Segment C; horizontal has no change in position

10. Where on the graph does the object have the greatest speed?

Segment B; steepest slope is fastest on position v. time graph

11. Use the information from #6 to construct a distance v. time graph of Ashton's trip.

Distance v. Time

