

Name: _____

Class Period: _____

Honors Physics: Kinematics in One-Dimension
Understanding Velocity and Acceleration - Homework

Instructions:

Below is a chart with velocity and acceleration. A + indicates a positive velocity or acceleration, a - indicates a negative velocity or acceleration. A 0 indicates a velocity or acceleration of zero. In the column labeled Motion, describe *in words* the resulting motion.

Velocity	Acceleration	Motion
+	0	
-	0	
+	+	
+	-	
-	+	
-	-	
0	0	

Please see back for additional practice.

Additional Practice:

Answers may be written on this page, but all work MUST be shown

1. You manage to travel 235 km in 3.25 h. What is your average velocity...
 - A. ...in km/h
 - B. ...in m/s
 - C. ...in mph

2. Is it possible for an object to have a negative acceleration while still increasing in speed? If so, provide an example.

3. A horse canters away from his trainer in a straight line, moving 130.0 m away in 14.0 s. It then turns abruptly and gallops halfway back in 4.80 s. *Assume that moving away from the trainer is in a positive direction.
 - A. Draw a picture depicting the horse's movement.
 - B. Calculate the average velocity of the horse's total motion in m/s.
 - C. Calculate the average speed of the horse's total motion in m/s.

4. Two cars are driving towards each other in the fog. Both cars are traveling with an average speed of 95.0 km/h. If they are initially 8.50 km apart, how long will it be before the two cars collide? Express your answer in SI units. *Consider where the cars meet.