**Distance v Time AND Velocity v Time Graphs Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Interpreting graphs
  + Distance or Velocity goes on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Time goes on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + A flat horizontal line indicates that the object or person is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + A diagonal line indicates that the object or person is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Distance v Time Graph: Jake was on his way to his soccer game when he realized he left his shin guards at home. He turned around and went home to pick them up. On his way back to his game he had to stop and wait for a train. After the train passed he was able to drive the rest of the way to his soccer game. Explain what is occurring at each event.

AB:

BC:

CD:

DE:

EF:

Velocity v Time Graph: You’re driving down the road at a constant speed when you hear sirens coming up behind you. You notice it is a fire engine, so you slow down and pull over on the side of the road. Once it’s gone by, you speed up quickly, because you realize you’re late for your movie!

AB:

BC:

CD:

DE:

**Acceleration = Final Velocity – Initial Velocity**

**Time**

**ACCELERATION**

**Show ALL work. Write what you have, write what you need, plug and chug.**

1. A roller coaster car rapidly picks up speed as it rolls down a slope. As it starts down the slope, its speed is 4 m/s. But 3 seconds later, at the bottom of the slope, its speed is 22 m/s. What is its average acceleration?

2. A cyclist accelerates from 0 m/s to 8 m/s in 3 seconds. What is his/her acceleration? Is this acceleration higher than that of a car which accelerates from 0 to 30 m/s in 8 seconds?

3. A car advertisement states that a certain car can accelerate from rest to 70 km/h in 7 seconds. Find the car’s average acceleration.

4. A lizard accelerates from 2 m/s to 10 m/s in 4 seconds. What is the lizard’s average acceleration?

5. If a Ferrari, with an initial velocity of 10 m/s, accelerates at a rate of 50 m/s/s for 3 seconds, what will its final velocity be? What will it be in mi/hr? (1 mi = 1.609 km)