ICP Velocity and Acceleration Notes

Name_____

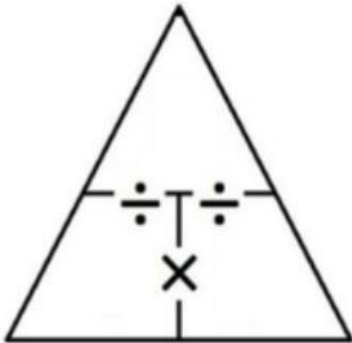**Velocity Vocabulary**

Rate:

Initial speed:

Final Speed:

Linear Speed:

Average Speed:

Velocity:

Velocity Formula

D =

T =

S =

Practice Problem #1:A trip to Indianapolis took 3 hours; it is 180 miles from Evansville to Indianapolis. Calculate the linear speed of the trip.

Practice Problem #2: Example: A trip from Evansville to Louisville took 2.5 hours, but the return trip home took 3 hours. Louisville is 110 miles from Evansville. Calculate the average speed of the trip.

Acceleration Vocabulary:

Acceleration:

Positive Acceleration:

Negative Acceleration:

Linear Acceleration:

Acceleration Formula:

$$a = \frac{v - v_0}{\Delta t}$$

Practice Problem 3: A car accelerates from 0 miles/hr to 60 miles/hr in 2.7 seconds. Calculate the linear acceleration of the car.

Is the car speeding up or slowing down?

How fast are you going after 1 second?

How fast are you going after 2 seconds?

How fast are you going after 3 seconds?

Practice Problem #4. You're driving at 75 miles per hour down the Lloyd Expressway, and you see those flashing red lights in the rearview mirror. You pull over, taking 20 seconds to come to a stop. The officer appears by your window and says, "You were going 75 miles per hour in a 50-mile-per-hour zone." How could you scientifically prove you were slowing down?