Acceleration Worksheet
Chapter 1, pages 34-38

Name_____
Period_____ Date_____

Equations:

$$\text{Acceleration} = \frac{\text{Final velocity} - \text{Initial velocity}}{\text{Time}} \qquad \text{Time} = \frac{\text{Final Velocity} - \text{Initial Velocity}}{\text{Acceleration}}$$

Final Velocity = Acceleration * Time + Initial Velocity

Problems: In order to receive credit for this worksheet you MUST show your work. You can use a calculator but you must show all of the steps in the spaces provided.

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 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?