Solving Motion Problems

Name: _____

$$d = v_i t + (0.5)at^2$$

$$v_f = v_i + at$$

Now it's up to you to follow the process and get an answer.

- **Identify the variables that you are given.**
- **Identify what you are being asked for.**
- **Choose the appropriate equation.**
- **Plug in and solve for the answer.**

1. A car starting from rest, gets up to 20 m/s in 5 seconds. What was its acceleration?

2. What is the final velocity of a horse that starts at 4 m/s and accelerates at 1 m/s^2 for 3 seconds?

3. A sprinter, starting from rest, accelerates at 2 m/s^2 for 3 seconds. How far did he go?

4. How long would it take a rocket to go from 100 m/s to 200 m/s, if it accelerated at 5 m/s^2?

5. A jogger covers 20 m in 5 seconds, with an acceleration of 2 m/s^2. What was her initial velocity?

Make up two of your own problems - one that uses the first equation and one that uses the second.

- **Identify the variables and the one to be solved for.**
- **Then set up the equation, but do not solve.**

6.

7.