

Name: _____

Mr. Croom's Physics

Date: _____

Chapter 2: One Dimensional Motion

1st Kinematic

Solve the following problems.

Example:

$$v_f = 20, v_o = 10, a=2, t=?$$

$$v_f = v_o + at \rightarrow 20 = 10 + 2t \rightarrow 10 = 2t \rightarrow 5 = t$$

1. $v_f = ?$, $v_o = -8$, $a=3$, $t=5$

3. $v_f = -30$, $v_o = 10$, $a=?$, $t=8$

2. $v_f = 16$, $v_o = ?$, $a=3$, $t=4$

4. $v_f = 30$, $v_o = 10$, $a=5$, $t=?$

Solve the following problems.

5. A car is traveling at 25 m/s when the driver hits the breaks and brings the car to rest. If the car accelerated at -3 m/s how long did the car take to stop?

6. A runner accelerates from rest at the start line to 4 m/s in 1.4 seconds what is the runner's acceleration?

7. A person travels at 3/s on their bike before reaching a hill. If the bike accelerates down the hill at 4.3 m/s^2 for 5 seconds. What is their final speed?

8. An airplane has a final velocity of 104 m/s after accelerating down a runway at 9 m/s^2 for 11 seconds. What was the airplane's original velocity?