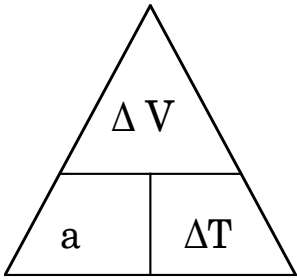


Acceleration Worksheet

Name _____ Date _____ Period _____



When using the triangle formula to the left, ΔV means change in velocity. Subtract the initial velocity from the final velocity to get ΔV . ΔT refers to how much time went by when something was accelerating. Example: If a barracuda goes from a dead stop (0 m/s) to 15 m/s and it takes 2 seconds to do so, what is it's acceleration? Using the formula at left, $\Delta V = 15 \text{ m/s (final velocity)} - 0 \text{ m/s (initial velocity)} = 15 \text{ m/s}$. Divide this 15 m/s (ΔV) by 2 s (ΔT) and you get 7.5 m/s^2 . This means that each second that went by, the velocity increased by 7.5 m/s, or 7.5 meters per second per second (m/s^2).

1. Calculate the acceleration of a car that goes from 30 m/sec to a speed of 65 m/sec in 5 seconds.

2. How much time does it take an oil tanker to slow down, if its acceleration is $-32 \text{ miles /hour}^2$ and its change in velocity was $-16 \text{ miles per hour}$. Remember to include the negative signs in your calculations.

3. Calculate the acceleration for a model rocket that had a change in velocity of 3,000 feet/sec, in a total time of 5 seconds.

4. Give an example of when something undergoes negative acceleration.

5. State Newton's entire First Law of Motion: _____

