

ACCELERATION CALCULATIONS

Name _____

Acceleration means a change in speed or direction. It can also be defined as a change in velocity per unit of time.

$$a = \frac{v_f - v_i}{t}$$

where a = acceleration
 v_f = final velocity
 v_i = initial velocity
 t = time

Calculate the acceleration for the following data.

	<u>Initial Velocity</u>	<u>Final Velocity</u>	<u>Time</u>	<u>Acceleration</u>
1.	0 km/hr	24 km/hr	3 s	_____
2.	0 m/s	35 m/s	5 s	_____
3.	20 km/hr	60 km/hr	10 s	_____
4.	50 m/s	150 m/s	5 s	_____
5.	25 km/hr	1200 km/hr	2 min	_____

6. A car accelerates from a standstill to 60 km/hr in 10.0 seconds.
What is its acceleration? _____
7. A car accelerates from 25 km/hr to 55 km/hr in 30 seconds.
What is its acceleration? _____
8. A train is accelerating at a rate of 2.0 km/hr/s.
If its initial velocity is 20 km/hr, what is its velocity after 30 seconds? _____
9. A runner achieves a velocity of 11.1 m/s 9 s after he begins.
What is his acceleration? _____
What distance did he cover? _____