Name _____ Date _____

	Zero to Sixty **35** Research and Analysis Form	

Vehicle Make _____ Vehicle Model _____ Vehicle Year _____

This vehicle will go from zero to sixty in _____ seconds.

Source for this information _____

Convert 60 mph (miles per hour) to m/s (meters per second). There are 1609 meters for every 1 mile. You may use an on-line converter to check your answer but you need to show your work below.

60 mph = _____ m/s

Now find the acceleration of your vehicle in m/s². Show your work below. Be sure to verify your answer with me before continuing.

v_i = 0 m/s

v_f = _____ m/s

t = _____ s

a = ?

What distance will your vehicle travel as it goes from zero to sixty? Find the distance in meters.

d = ?

Convert 20 mph (miles per hour) to m/s (meters per second). There are 1609 meters for every 1 mile. You may use an on-line converter to check your answer but you need to show your work below.

20 mph = _____ m/s

Fill in the information below and use it to find the time it will take for your vehicle to reach this speed. Show your work.

v_i = 0 m/s

v_f = _____ m/s (20 mph)

a = _____ m/s^2

t = ?

What distance will your vehicle travel as it goes from zero to 20 mph? Find the distance in meters.

d = ?

Convert 40 mph (miles per hour) to m/s (meters per second). There are 1609 meters for every 1 mile. You may use an on-line converter to check your answer but you need to show your work below.

40 mph = _____ m/s

Fill in the information below and use it to find the time it will take for your vehicle to reach this speed. Show your work.

v_i = 0 m/s
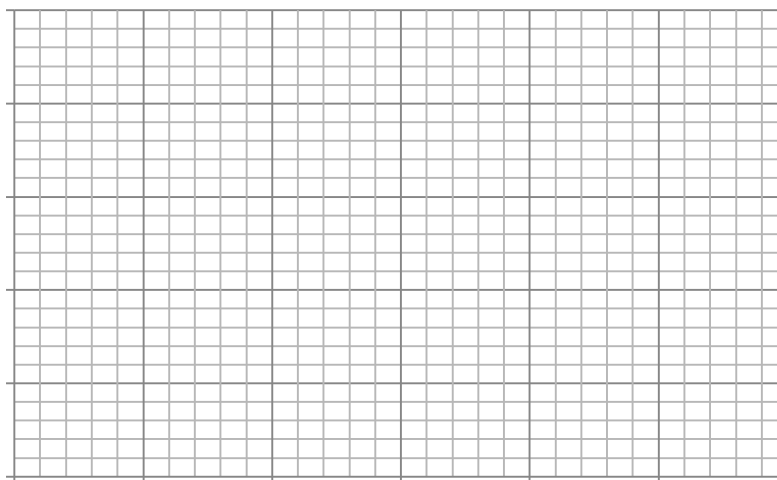
v_f = _____ m/s (40 mph)

a = _____ m/s^2

t = ?

What distance will your vehicle travel as it goes from zero to 40 mph? Find the distance in meters.

d = ?

Confirm your calculations and results with me. Once they have been confirmed, fill in the chart below.

Time (seconds)	Speed (m/s) *mph are also listed	Distance (m)
0	0	
	8.9 m/s *20 mph	
	17.9 m/s *40 mph	
	26.8 m/s *60 mph	

Complete a speed vs time graph. Graph the speed in m/s.

1) Show the calculation used to get the slope of your trendline.

2) The slope of the line represents a physics term. What is the one word physics term represented by the slope of the graph?

3) Give the equation for your trendline.

Complete a distance vs time graph. Graph the distance in meters.