

With gas prices going up, it is common to hear people say that they are changing their lifestyle to save money on gas. For this project, gas cost \$4.00 per gallon. Analyze how much money people will save on the following cost-saving measure.

Sally Johnson owns a 2006 Ford Explorer Sport Utility Standard Edition (used, V6, 4WD) and wants to trade the vehicle in for a more efficient Toyota Prius Standard Edition (new). To compare these vehicles, use the Kelley Blue Book Website ([www.kbb.com](http://www.kbb.com)) and click on “compare cars” in the Research and Explore box.

- A. What if Sally keeps the Explorer for 5 years and puts on 25,000 city miles and 35,000 highway miles? What is the total cost for gas?

<i>Fuel Efficiency</i>	<i>Gallons Used</i>	<i>Total Cost</i>
City: _____ mpg	City: _____	
Hwy: _____ mpg	Hwy: _____	
	Total: _____	

- B. If Sally keeps the Prius for 5 years and puts on 25,000 city miles and 35,000 highway miles, then what is the total cost for gas?

<i>Fuel Efficiency</i>	<i>Gallons Used</i>	<i>Total Cost</i>
City: _____ mpg	City: _____	
Hwy: _____ mpg	Hwy: _____	
	Total: _____	

- C. If Sally sells the Explorer to a friend (Fair Market Private Sale Price) and buys the Prius at the dealership (Fair Market Price at Dealership), then how much will she spend to switch vehicles?

<i>Explorer Income</i>	<i>Prius Expense</i>	<i>Difference</i>
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- D. How much total has Sally saved by trading in the Explorer for the Prius?

<i>Cost to keep Explorer for 5 years</i>	<i>Cost to switch to the Prius for 5 years</i>	<i>Difference</i>
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E. Write an equation for the cost ( $Y_1$ ) of driving the Explorer in the city for  $x$  miles.

Hint: gallons used driving  $x$  miles:  $g = \underline{\hspace{2cm}}$       Cost  $Y_1 = \underline{\hspace{2cm}}$

Needed for part G: Cost of driving 40,000 miles:                     

F. Write an equation for the cost ( $Y_2$ ) of driving the Prius in the city for  $x$  miles.

Hint: gallons used driving  $x$  miles:  $g = \underline{\hspace{2cm}}$       Cost  $Y_2 = \underline{\hspace{2cm}}$

Needed for part G: Cost of driving 40,000 miles:                     

G. Graph the 2 equations from 0 to 40,000 miles.

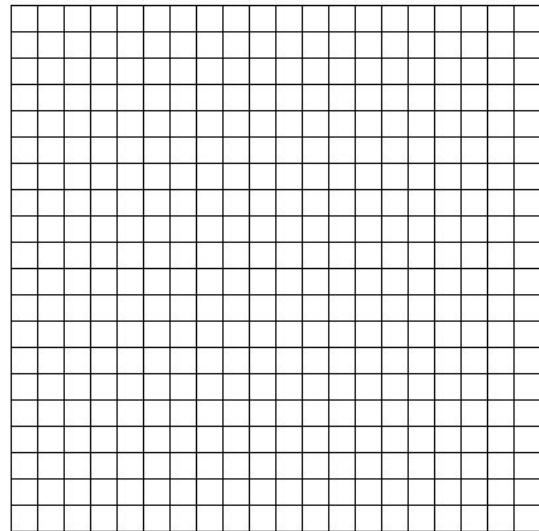
Plot two ordered pairs for each line

Explorer (0,           ) and (40,000,           )

Connect the ordered pairs to make the line.

Prius (0,           ) and (40,000,           )

Connect the ordered pairs to make the line.



H. Describe 3 reasons why Sally should trade in her Explorer for a Prius.

- 1.
- 2.
- 3.

I. Describe 3 reasons why Sally should keep her Explorer.

- 1.
- 2.
- 3.