Now That’s SOME Gas Mileage!

(Complete the problem-solving template as you work to find the answers to the questions below)

Clyde is a famous inventor and he has designed three fuel-saving inventions for cars.

He boasts that his inventions will provide the following savings on fuel:



Invention 1: 35% savings

Invention 2: 40% savings

Invention 3: 25% savings



Clyde claims that people can get 100% savings on their fuel by using all three inventions.

1) Is this possible?

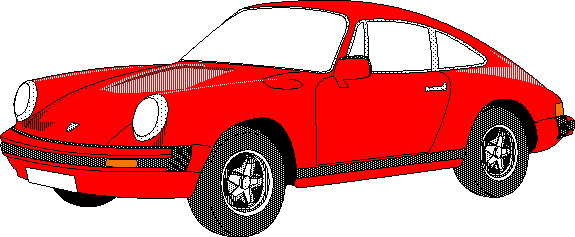
2) Explain if you agree with Clyde and why. If you do not agree, explain what

Clyde did wrong.

3) How much savings ***could*** a person get if all three inventions worked as

advertised and independently of each other?





Solution:

Invention 1: 35% (0.35) savings means that there is still 65% (0.65) of fuel cost remaining.

Invention 2: 40% (0.4) savings means that there is still 60% (0.6) of fuel cost remaining.

Invention 3: 25% (0.25) savings means that there is still 75% (0.75) of fuel cost remaining.

Since these are all independent events, to get the combined result we must multiply the independent results together: (0.65)(0.6)(0.75) = 0.2925 total remaining fuel costs.

Therefore, the savings is 1 – 0.2925 = 0.7075, or 70.75% TOTAL SAVINGS