

# Computer Times Supplement

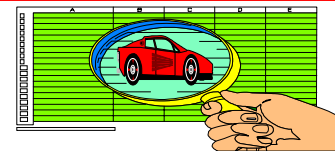
**MATH MADE EASY  
WITH MS EXCEL**



Mr. Breitsprecher's Edition

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## Applied Algebra is Easy With Excel



There are a number of different formulas that calculate gas consumption for cars. A simple formula that is given for all new cars is miles per gallon. It is calculated as follows: **mpg= miles driven/gallons of gasoline**. Using this formula in Excel is easy. Create a simple spreadsheet to apply this formula for the data listed below:

	A	B	C	D	E	F	G	H
1	Miles per Gallon of Gasoline City							Miles per Gallon Highway
2	By: Your Name							
3								
4		Miles	Gallons	MPG		Miles	Gallons	MPG
5	Car 1	450	15	=B5/C5		345	10	=F5/G5
6	Car 2	375	12	Fill Down		310	8	Fill Down
7	Car 3	275	11	Fill Down		270	9	Fill Down
8	Car 4	350	14	Fill Down		345	12	Fill Down
9								

Of course, algebraically we can rearrange the formula and solve for any of the terms. The steps in the solving for miles driven given mpg and gallons of gas:

$$\begin{aligned} \text{mpg} &= \text{miles driven} / \text{gallons of gasoline} \\ \text{gallons of gasoline} * \text{mpg} &= (\text{miles driven} / \text{gallons of gas}) * \text{gallons of gas} \\ \text{gallons of gasoline} * \text{mpg} &= (\text{miles driven} / \text{gallons of gas}) * \text{gallons of gas} \\ \text{gallons of gasoline} * \text{mpg} &= \text{miles driven or } \mathbf{\text{miles driven} = \text{gallons of gasoline} * \text{mpg}} \end{aligned}$$

Using the data listed below, add a new section to your spreadsheet using this new formula:

	A	B	C	D	E	F	G	H
10	Mile Driven Given Gallons of Gas and MPG							
11		Gallons	MPG	Miles Driven		Gallons	MPG	Miles Driven
12	Car 1	8	30	=B13*C13		14	34.5	=F13*G13
13	Car 2	12	31.25	Fill Down		6	38.75	Fill Down
14	Car 3	9	25	Fill Down		12	30	Fill Down
15	Car 4	11	25	Fill Down		9	28.75	Fill Down

We can solve our **mpg=gallons/miles driven formula** to calculate gallons of gas needed given mpg and miles driven. Our formula is gallons = miles/mpg. Can you explain why? Using the data listed below, add a new section to your spreadsheet using this new formula:

	A	B	C	D	E	F	G	H
17	Gallons of Gas Needed Given MPG and Miles							
18		MPG	Miles	Gallons Needed		MPG	Miles	Gallons Needed
19	Car 1	30	785	=C19/B19		34.5	1175	=G19/F19
20	Car 2	31.25	1200	Fill Down		38.75	950	Fill Down
21	Car 3	25	230	Fill Down		30	490	Fill Down
22	Car 4	25	510	Fill Down		28.75	835	Fill Down

Apply **BOLD** to ranges **A4:H4**, **A10:H11** and **A17:H18**. **SPELL CHECK, PROOFREAD, SAVE AND PRINT.**