

March 9, 2015 ^{1st} _{2nd} Starter

Arrange the digits from 1 to 9 to make a 9-digit number ABCDEFGHI which satisfies the following conditions:

- 1) AB is divisible by 2;
- 2) ABC is divisible by 3;
- 3) ABCD is divisible by 4;
- 4) ABCDE is divisible by 5;
- 5) ABCDEF is divisible by 6;
- 6) ABCDEFG is divisible by 7;
- 7) ABCDEFGH is divisible by 8;
- 8) ABCDEFGHI is divisible by 9.

There is only one solution.



3/5 Sales Tax, Discount, and Mark-Up

Original price of a telescope: \$219.50

Tax: 7.25%

Find 7.25% of \$219.50 then
add it to the original price.

7.25% of \$219.50
TIMES

$$(0.0725)(219.50) = \$15.91 \leftarrow \text{Tax}$$

$$0.0725 \times 219.5 = 15.91375$$

$$\begin{array}{r} \$219.50 \\ + 15.91 \\ \hline \$235.41 \end{array}$$



Original price of a truck: \$44,000.00

Tax: 7.375%

$$\begin{aligned} & 7.375\% \text{ of } \$44,000.00 \\ & (.07375)(44000) \\ & = \$3245 \end{aligned}$$

$$0.07375 \times 44000 = 3245$$

$$\begin{aligned} & \$44,000 \\ & + 3245 \end{aligned}$$

$$\boxed{\$47,245}$$



Find 7.375% of \$44,000 then add it to the original price.

Find the sale price of the bike if:
Original price of a bicycle: \$500.00
Discount: 40%

Find 40% of 500 then subtract
it from the original price.

$$\begin{aligned} & \underline{40\% \text{ of } 500} \\ & (.4)(500) \\ & = \$200 \\ & \$500 \\ & - 200 \\ & \hline & \$300 \end{aligned}$$



Original price of a camera: \$149.95

Discount: 15%

Find 15% of 149.95 then subtract it from the original price.



$$\begin{aligned} & \text{15\% of } \$149.95 \\ & (0.15)(149.95) \\ & = \$22.49 \end{aligned}$$

$$0.15 \times 149.95 = 22.4925$$

$$\begin{array}{r} \$149.95 \\ -22.49 \\ \hline \$127.46 \end{array}$$

Cost of a hat: \$8.99

Markup: 25%

Find 25% of 8.99 then add it to the original price.

$$\begin{aligned} & 25\% \text{ of } \$8.99 \\ & (0.25)(8.99) \\ & = \$2.25 \end{aligned}$$

$$\begin{array}{r} \$8.99 \\ + 2.25 \\ \hline \$11.24 \end{array}$$

$$0.25 \times 8.99 = 2.2475$$



Original price of a shirt: \$12.50

Discount: 25%

Tax: 6.5%



$$\textcircled{1} (0.25)(12.50)$$
$$0.25 \times 12.5 = 3.125$$
$$= \$3.13 \text{ Discount}$$

$$\textcircled{2} 12.50 - 3.13$$
$$12.5 - 3.13 = 9.37$$
$$= \$9.37 \text{ Sale Price}$$

$$\textcircled{3} (.065)(9.37)$$
$$0.065 \times 9.37 = 0.60905$$
$$= \$0.61 \text{ Tax}$$

$$\textcircled{4} 9.37 + 0.61$$
$$= \$9.98$$

1. Find 25% of 12.50
2. Subtract it from the original to get the sale price.
3. Find 6.5% of the sale price to get the tax.
4. Add it to the sale price.

Cost of a shirt: \$52.50

Markup: 25%

Tax: 6.5%

$$\textcircled{1} \quad (0.25)(52.50)$$
$$0.25 \times 52.5 = 13.125$$
$$= \$13.13$$

$$\textcircled{2} \quad 52.50 + 13.13$$
$$= \$65.63$$

$$\textcircled{3} \quad (0.065)(65.63)$$
$$0.065 \times 65.63 = 4.26595$$
$$= \$4.27$$

$$\textcircled{4} \quad 65.63 + 4.27$$
$$\boxed{\$69.90}$$



1. Find 25% of 52.50
2. Add it to the original price
3. Find 6.5% of the new price
4. Add it to the new price.

Cost of shorts: \$22.50

Markup: 75%

Discount: 30%

Tax: 6.375%

$$\textcircled{1} (0.75)(22.50) = \$16.88$$

$$\textcircled{2} 22.50 + 16.88 = \$39.38$$

$$\textcircled{3} (0.30)(39.38) = \$11.81$$

$$\textcircled{4} 39.38 - 11.81 = \$27.57$$

$$\textcircled{5} (0.06375)(27.57) = \$1.76$$

$$\textcircled{6} 27.57 + 1.76 = \$29.33$$



1. Find 75% of 22.50
2. Add it to the original price
3. Find 30% of the new price to get the discount
4. Subtract it from the new price to get the sale price
5. Find 6.375% of the sale price
6. Add it to the sale price

Homework
Yellow WS 4

Due Thursday