Discount, Sale Price, and Tax

Do you like to shop? Do you like sales? Do you pay attention to the cashier as she/he checks your purchase? Do you review your receipt? Whether or not you like to shop… There are a few things everyone needs to learn about shopping. First, we will explain what a few common shopping terms mean.

✓ The __original__ __price__ → *also called the "list price"* is the amount you would pay before a sale.

✓ The __discount__ is the amount you do __not__ have to pay. Note: Sometimes this is written as a percent and sometimes you are given an actual dollar amount that you will not have to pay.

  Which is better? 10% off or $10 off ??
  or shirt that costs $11

  Answer: It depends…

✓ The __sale__ __price__ is the price you pay after the discount is taken off. ↘

  sale price = original price — discount

✓ Finally, the __tax__ is added onto the sale price to find the new price you have to pay.

  new price (or "final price") = sale price + tax

✓ Note: Sometimes the terms "mark up" and "mark down" are used to show how much is added or taken off of the item.

  inflation ☺   *↳ discount ☺*

Let's do some examples to help become, like the commercial says…, "a more educated consumer."
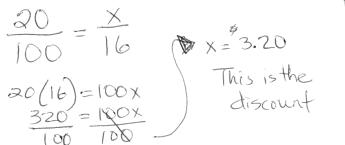
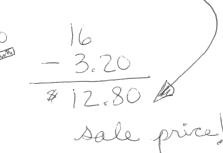**#1** A tie has a regular price of $16. It is now on sale for 20% off. Find the sale price.

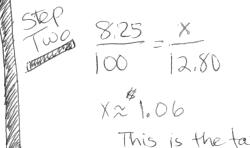Step One

$$\frac{20}{100} = \frac{x}{16}$$
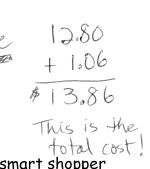
$$20(16) = 100x$$

$$\frac{320}{100} = \frac{100x}{100}$$

$x = \$3.20$
This is the discount

Step Two

$$\begin{array}{r} 16 \\ -\ 3.20 \\ \hline \$12.80 \end{array}$$
sale price!

#2 Sales tax in Putnam County is $8\frac{1}{4}$%. What is the sales tax on the tie in question #1?

Step One

$8\frac{1}{4}$% can be written as 8.25%.

Step Two

$$\frac{8.25}{100} = \frac{x}{12.80}$$

$x \approx \$1.06$
This is the tax

Step Three

$$\begin{array}{r} 12.80 \\ +\ 1.06 \\ \hline \$13.86 \end{array}$$
This is the total cost!

#3 Yesterday Susie bought a new sweater that originally cost $28. She was a smart shopper and had a discount coupon worth $10. How much did she have to pay, including a 5% sales tax?

Step One

$$\begin{array}{r} 28 \\ -\ 10 \\ \hline \$18 \text{ sale price} \end{array}$$

Step Two

$$\frac{5}{100} = \frac{x}{18}$$

$x \approx \$.90$
tax

Step Three

$$\begin{array}{r} 18 \\ +\ .90 \\ \hline \$18.90 \end{array}$$
Final price

#4 Find the price of an item, including a $7\frac{1}{2}$% tax, that originally sold for $320 and is now marked down 20%.

Step One

$$\frac{20}{100} = \frac{x}{320}$$

$x \approx 64$
discount

Step Two

$$\begin{array}{r} 320 \\ -\ 64 \\ \hline \$256 \text{ sale price} \end{array}$$

Step Three

$7\frac{1}{2}$% → 7.5%

$$\frac{7.5}{100} = \frac{x}{256}$$

$x \approx 19.20$
tax

Step Four

$$\begin{array}{r} 256 \\ +\ 19.20 \\ \hline \$275.20 \end{array}$$
final price!