

Reteaching Page

8.10 – Using Percents

This is the lesson that the whole chapter is about! People really do need to use percent in problems every day. Here are 3 extremely common uses for percents and one interesting use.

Common Uses of Percents	
Sales Tax	<p>Sales Tax varies from state to state and city to city. Sales tax is a special tax that is applied to almost everything you buy.</p> <p>To figure sales tax – multiply the cost of your purchase and the tax rate. $\text{Price} * \text{Tax Rate} = \text{Tax}$</p> <p>To figure the total cost – multiply the cost of your purchase and (the tax rate + 1). $\text{Price} * (1 + \text{Tax Rate}) = \text{Total Cost.}$ (the 1 that is added is 100% of the cost so you don't have to add the price later)</p>
Tips	<p>Tips stands for To Insure Prompt Service and are an extra amount that you voluntarily add to your bill to insure that the waiter serves you well.</p> <p>Satisfactory Service is 10% ; Good Service is 15% and Excellent Service is 20%</p> <p>To figure a tip – multiply the cost of your purchase * the tip rate you choose. $\text{Price} * \text{Tip Rate} = \text{Tip}$</p> <p>To figure the total cost – multiply the cost of your purchase and (the tip rate + 1). $\text{Price} * (1 + \text{Tip Rate}) = \text{Total Cost.}$ (the 1 that is added is 100% of the cost so you don't have to add the price later)</p>
Discounts	<p>A discount is an amount that is subtracted from the regular price. Often called a sale price.</p> <p>To figure the amount of a discount – multiply the original cost * the percent of discount $\text{Price} * \text{Percent of Discount} = \text{Discount}$</p> <p>To figure the new price – multiply original cost * (100% - discount). $\text{Price} * (100\% - \text{Percent of Discount}) = \text{Reduced Cost.}$ (100% - 20% discount is 80% of the original cost)</p>
Mark Ups	<p>Businesses mark up the price of their products based on their needs to cover expenses and profits. (Usually a mark up is 100%) so an item purchased for 3 dollars is sold for \$6.</p> <p>Did you know that 10% of every purchase is a mark up to pay for stealing?</p> <p>Mark ups are very easy to figure – Just multiply the cost * (100% + mark up) A 60% mark up would be $\text{Price} * 160\%$ or $\text{Price} * 1.6$</p>

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Practice computing sales tax. (North Carolina is 6.75%)

Amount of Tax

A bicycle costs \$85

$$\text{Price} * \text{Tax Rate} = \text{Tax}$$

$$85 * 0.0675 = 5.7375 \text{ which is } \$5.74$$

(the state always **rounds up!**)

Total Cost

A bicycle costs \$85

$$\text{Price} * (1 + \text{Tax Rate}) = \text{Total Cost}$$

$$85 * 1.0675 = 90.7375 \text{ which is } \$90.74$$

(the state always **rounds up!**)

A video game costs \$49.95

$$\text{Price} * \text{Tax Rate} = \text{Tax}$$

$$\underline{\hspace{2cm}} * 0.0675 = \underline{\hspace{2cm}}$$

A bicycle costs \$85

$$\text{Price} * (1 + \text{Tax Rate}) = \text{Total Cost}$$

$$\underline{\hspace{2cm}} * 1.0675 = \underline{\hspace{2cm}}$$

Practice computing tips. (Let's say we get good service 15%)

Amount of Tip

The meal costs \$48

$$\text{Price} * \text{Tip Rate} = \text{Tip}$$

$$48 * 0.15 = 7.2 \text{ which is } \$7.20$$

Total Cost

The meal costs \$48

$$\text{Price} * (1 + \text{Tip Rate}) = \text{Total Cost}$$

$$48 * 1.15 = 55.20 \text{ which is } \$55.20$$

The meal costs \$72

$$\text{Price} * \text{Tip Rate} = \text{Tip}$$

$$\underline{\hspace{2cm}} * \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

The meal costs \$72

$$\text{Price} * (1 + \text{Tip Rate}) = \text{Total Cost}$$

$$\underline{\hspace{2cm}} * \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Practice computing discounts.

Amount of Discount

35% off of \$115

$$\text{Price} * \text{Percent of Discount} = \text{Discount}$$

$$115 * 0.35 = 40.25 \text{ which is } \$40.25 \text{ off!}$$

Total Cost

35% off of \$115

$$\text{Price} * (100\% - \text{Percent of Discount}) = \text{Total}$$

$$115 * 0.65 = 74.75 \text{ which is } \$74.75$$

25% off of \$80

$$\text{Price} * \text{Percent of Discount} = \text{Discount}$$

$$\underline{\hspace{2cm}} * \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

25% off of \$80

$$\text{Price} * (100\% - \text{Percent of Discount}) = \text{Total}$$

$$\underline{\hspace{2cm}} * \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$