

8.5 Sales Tax & Discount

Important Terms

sales tax: an additional amount of money charged on items that people buy.
The total cost of an item is the regular price plus the sales tax.

discount: the amount by which the regular price of an item is reduced
The sale price is the regular price minus the discount.

Example: Find the Total Cost

- ✓ A graphing calculator costs \$90, and the sales tax is 4.25%. What is the total cost of the calculator?

First, find the sales tax. 4.25% of $\$90 = 0.0425 \times 90 \approx 3.83$
The sales tax is \$3.83

Next, add the sales tax to the regular price. $3.83 + 90 = 93.83$
The total cost of the calculator is \$93.83.

****YOUR TURN:** A book costs \$10.00 and the sales tax is 6.25%. What is the total cost of the book?

Another way to find the cost of an item with sales tax is to add the percent of tax to 100%.

Example: Find the Total Cost

- ✓ What is the total cost of a sweatshirt if the regular price is \$42 and the sales tax is 5.5%?

Add the percent of tax to 100%. $100\% + 5.5\% = 105.5\%$
The cost is 105.5% of the regular price.

Use a calculator. 105.5% of $\$42 = 1.055 \times 42 = 44.31$
The total cost of the sweatshirt is \$44.31.

****YOUR TURN:** What is the total cost of a game if the regular price is \$28 and the sales tax is 6%?

Example: Find the Sale Price

- ✓ Alan wants to buy a snowboard that has a regular price of \$169. This week, the snowboard is on sale at a 35% discount. What is the sale price of the snowboard?

<u>Method 1</u>	<u>Method 2</u>
First, find the amount of the discount, d . part = percent \times base $d = 0.35 \times 169$ $d = 59.15$ So, the sale price is $169 - 59.15$ or \$109.85	First, subtract the percent of discount from 100% $100\% - 35\% = 65\%$ So, the sale price s is 65% of the regular price. $s = 0.65 \times 169$ $s = 109.85$ The sale price is \$109.85

****YOUR TURN:** The regular price of a Playstation is \$349. It is on sale at a 20% discount. What is the sale price of the Playstation?

Example: Find the Percent of Discount

An electric guitar is on sale for \$179.99. The original price was \$299.95. What is the percent of discount?

First, find the *amount* of discount.

$$\$299.95 - 179.99 = \$119.96$$

Next, use the percent equation or proportion to find the percent discount.

$$\frac{119.96}{299.95} = \frac{n}{100}$$

Cross multiply, divide, and simplify.

The percent of discount is about 40%.

****YOUR TURN:** An Ipod is on sale for \$189.99. The original price was \$210. What is the percent of discount?
