

Name: _____

Date: _____

Aim: How can we use percents to find discount and sales price?

I. Shoes at Footlocker are on sale for 40% off. If the original price was \$120, how much is the new price of the shoes?

$$\begin{aligned} \text{disc} &= \% \cdot \text{original price} \\ n &= (0.40)(120) \rightarrow \begin{array}{r} 120 \\ - 48 \\ \hline \$72 \end{array} \\ n &= \$48 \end{aligned}$$

II. If there is 4.5% sales tax, how much are the shoes?

$$\begin{aligned} \text{tax} &= \% \cdot \text{sales price} \\ n &= (0.045)(72) \rightarrow \begin{array}{r} 72 \\ + 3.24 \\ \hline \$75.24 \end{array} \\ n &= \$3.24 \end{aligned}$$

Percents are used every day in real life, but one of the most common ways that we can apply our knowledge of percents is to shopping. Frequently, stores will have items go on sale, or customers will receive coupons in the mail for **discounts** on a certain item. We are going to study how to find those discounts, as well as the new sales price for an item.

Vocabulary

Let's say MACY'S is having a sale on a pair of shoes that were \$100. They are on sale for 25% off. This means, that they are taking 25% off of the bill. Since 25% of 100 (or 0.25×100) is \$25, the discount is \$25.00. And the pair of shoes is now \$75.

Original Price: the price of an item before it goes on sale

Discount: the \$ amount that is coming off the bill
Formula: $\text{discount} = \% \cdot \text{original price}$

Sale Price: the new price of the item after the discount is subtracted

In addition to discounts that are frequently applied to popular merchandise, stores are required by the state to charge tax on certain items.

Tax: a dollar amount added to the bill that the customer must pay
Formula: $\text{tax} = \% \cdot \text{sale price}$

tax is applied
to the FINAL price
of item after all
discounts

1.) MACY*S is selling a pair of sneakers, priced at \$82.00. Today, there is a 30% off sale, and you are looking to buy this pair of sneakers. Find the sale price of the pair of sneakers.

a.) First, find the discount. $disc = \% \cdot orig. price$
 $n = (.30)(82)$
 $n = \$24.60$

b.) Second, find the sales price.

$$82 - 24.60 = \$57.40$$

Guided Problems

2.) The price of a used car is \$15,800. If the sales tax is 8%, what is the final price of the car?

a.) First, find the tax. $tax = \% \cdot sale price$
 $n = (.08)(15800)$
 $n = \$1264$

b.) Second, find the final price.

$$15800 + 1264 = \$17064$$

3.) You went to the store to buy a sweater for \$50. You found out that it is on sale for 10% off! How much did you pay for the sweater, with tax, if the tax rate is 4.5%?

a.) First, find the discount. $disc = \% \cdot orig price$
 $n = (.10)(50)$
 $n = \$5.00$

b.) Second, find the sales price

$$50 - 5 = \$45.00$$

c.) Third, find the tax.

$$tax = \% \cdot sales price$$

 $n = (.045)(45)$
 $n = 2.025$
 $n = \$2.03$

d.) Fourth, find the final price.

$$45 + 2.03 = \$47.03$$