

Name _____

Date _____

Mr. Tallman

Do Now

1) Gamestop purchases a Playstation 4 from the warehouse for \$250. Gamestop sells a Playstation 4 to customers for \$300. What is the percent of the markup?

orig: 250 $mu = orig(\%)$
 $50 = \frac{250(x)}{250}$
 $x = 0.20$ **20%**
mu: 50
%: X

2) A \$300 is marked up by 25%. What is the new price of the tablet?

orig: 300 $mu = orig(\%)$ $300 + 75 =$ **\$375**
 $x = 300(25)$
 $x = 75$
mu: X
%: 25

Lesson #38 - Discount and Markdown

The cost of an item decreases when a discount or markdown is applied to that item.

Example 1) Answer the following questions.

<p>A) You are shopping at Macy's and see a pair of jeans that costs \$50. You have a coupon that provides you with a \$5 discount on any purchase. What is the cost of the jeans after the discount?</p> <p>$\\$50 - \\$5 =$ \$45</p>	<p>B) Morgan is at CVS and wants to buy shampoo. She finds her favorite shampoo that originally costs \$5. She notices that the shampoo has been marked down to \$3. How much money is she saving?</p> <p>$\\$5 - \\3 \$2</p>
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How To Find Discount/Markdown

<u>Discount/Markdown Equation</u>	<u>Discount/Markdown Proportion</u>
<p style="text-align: center;">Discount or Markdown = Original(%)</p> <p>**Percents must be turned into Decimals**</p>	$\frac{\text{discount or markdown}}{\text{original}} = \frac{\%}{100}$

Example 2) Madison buys a pair of pants that were originally priced \$60. She has a 30% off coupon.

Part A) How much will she be saving by using the coupon?

Orig: 60 $D = (60 \cdot 0.3)$

Discount: X $D = \$18$

%: 30

Part B) What is the final cost of the pants?

$60 - 18 = \$42$

Example 3) There's a skateboard competition this Saturday. Jensen would like to purchase a new skateboard which is originally priced at \$50. All skateboards are on sale 20% off. What is the sale price of the skateboard?

Orig: 50 Disc. = $50(0.2)$ $\$50 - \$10 = \$40$

Discount: X $X = 50(0.2)$

%: 20 $X = \$10$

Example 4) A car that normally sells for \$20,000 is on sale for \$16,000. Find the discount rate.

Orig: 20,000 ~~Disc. = 20,000(X)~~

Discount: 4,000 $\text{Disc} = 20,000(X)$

%: X $\frac{4,000}{20,000} = \frac{20,000(X)}{20,000}$

$X = 0.2 \rightarrow 20\%$

Now, You Try!

5) A \$310 mountain bike is discounted by 35%. Find the sales price of the bicycle.

Orig: 310
Discount: X
%: 35

$$\begin{aligned} \text{Disc} &= \text{orig}(\%) \\ X &= 310(.35) \\ X &= \$108.50 \end{aligned}$$

$$310 - 108.50$$

\$201.50

6) A laptop that normally sells for \$687.50 is on sale for \$550. What is the discount rate?

Orig: 687.50
Discount: 137.50
%: X

$$\begin{aligned} \text{Disc} &= \text{orig}(\%) \\ 137.50 &= 687.50(X) \\ \frac{137.50}{687.50} & \\ X &= 0.2 \rightarrow \text{20\%} \end{aligned}$$

What happens if you know the discount percent and the sale price, but want to know the original price??

Example 7) A sign says that the price marked on all music equipment is 30% off the original price. You buy an electric guitar for the sale price of \$315. What is the original price?

\$315 is what percent of the original price? 70%

70% of what number is \$315?

Part: X
whole: 315
Percent: 70

$$\begin{aligned} \text{Part} &= \text{whole}(\%) \\ X &= 315(.70) \\ X &= \$220.50 \end{aligned}$$

Example 8) There is a sign at Journey's in the mall that says all shoes are 25% off. The sale price of the pair of shoes you are looking at is \$55. What is the original price of the shoes?

75% of what number is 55?

Part: X
Whole: 55
%: 75

$$\begin{aligned} \text{Part} &= \text{whole}(\%) \\ X &= 55(.75) \\ X &= \$39.60 \end{aligned}$$

Practice Problems

9) Sasha went shopping and decided to purchase a set of bracelets for 25% off of the regular price of \$44. Find the sales price of the set of bracelets.

$$\begin{array}{l} \text{Orig: } 44 \\ \text{Disc: } x \\ \%: 25 \end{array} \quad \begin{array}{l} \text{Disc} = \text{orig}(\%) \\ x = 44(.25) \\ x = \$11 \end{array} \quad \begin{array}{l} 44 - 11 = \text{\$}33 \end{array}$$

10) A backpack that usually sells for \$50 is on sale for \$38. What is the percent of discount for the sale price?

$$\begin{array}{l} \text{Orig: } 50 \\ \text{Disc: } 12 \\ \%: x \end{array} \quad \begin{array}{l} \text{Disc} = \text{orig}(\%) \\ \frac{12}{50} = \frac{50(x)}{50} \\ x = 0.24 \rightarrow 24\% \end{array}$$

11) A \$300 tablet is marked up by 25% then marked down by 25%. What is the final price?

$$\begin{array}{l} \text{Orig: } 300 \\ \text{Mo: } x \\ \%: 25 \end{array} \quad \begin{array}{l} \text{Markup} \\ x = 300(.25) \\ x = \$75 \\ 300 + 75 = \text{\$}375 \end{array} \quad \begin{array}{l} \text{Mark down} \\ \text{Orig: } 375 \\ \text{md: } x \\ \%: 25 \end{array} \quad \begin{array}{l} x = 375(.25) \\ x = \$93.75 \\ 375 - 93.75 = \text{\$}281.25 \end{array}$$

12) At Stop-N-Shop, you find a 24 pack of Poland Spring water originally \$4.99. There is a sign above the water that says it is 15% off.

Part A) What is the price of the Poland Spring water after the discount of 15%?

$$\begin{array}{l} \text{Orig: } 4.99 \\ \text{Disc: } x \\ \%: 15 \end{array} \quad \begin{array}{l} \text{Disc} = \text{orig}(\%) \\ x = 4.99(.15) \\ x = \$0.75 \end{array} \quad \begin{array}{l} 4.99 - 0.75 \\ \text{\$}4.24 \end{array}$$

Part B) When you get up to the register, you realize you have a coupon for an additional 20% off any item. What is the final cost of the Poland Spring water?

$$\begin{array}{l} \text{Orig: } 4.24 \\ \text{Disc: } x \\ \%: 20 \end{array} \quad \begin{array}{l} \text{Disc} = \text{orig}(\%) \\ x = 4.24(.2) \\ x = \$0.85 \end{array} \quad \begin{array}{l} 4.24 - 0.85 \\ \text{\$}3.39 \end{array}$$