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When shopping for video games, or any other product, understanding how discounts work can help you save money and make smarter purchasing decisions. In this article, we will explore the scenario where Carson bought a video game on sale, analyze how to calculate the discount percentage, and provide valuable insights into shopping discounts. Whether you're a student learning basic math or a seasoned shopper, understanding these concepts can help you maximize savings.

Understanding the Scenario

Before diving into the calculations, let's lay out the details of Carson's shopping experience:

- Original Price (Label Price): \$40
- Price Paid (Before Tax): \$28
- Tax: Not specified but can be considered separately
- Discount Amount: The difference between the original price and the amount paid
- Discount Percentage: The percentage of the original price that was saved

Knowing these key details allows us to analyze the discount accurately.

What Is a Discount Percentage?

A discount percentage indicates how much the price of an item has been reduced relative to its original price. It is expressed as a percentage and helps compare savings across different products or sales.

Formula for Discount Percentage:

$$\text{Discount Percentage} = \left(\frac{\text{Discount Amount}}{\text{Original Price}} \right) \times 100$$

Where:

- Discount Amount = Original Price – Sale Price
- Original Price is the listed price on the tag

Applying this formula enables you to determine precisely how much you saved.

Calculating the Discount in Carson's Scenario

Let's use the given data to compute the discount percentage.

Step 1: Identify the Discount Amount

The discount amount is:

$$\text{Discount Amount} = \text{Original Price} - \text{Price Paid}$$

$$= \$40 - \$28 = \$12$$

Step 2: Calculate the Discount Percentage

Using the formula:

$$\text{Discount Percentage} = \left(\frac{\$12}{\$40} \right) \times 100$$

$$= 0.3 \times 100 = 30\%$$

Result: Carson received a 30% discount on the video game.

Note on Tax

Since the problem specifies the amount paid before tax, the tax does not influence the discount calculation directly. However, understanding that taxes can affect the total amount paid is important for overall budgeting.

Why Is Calculating Discount Percentages Important?

Understanding how to calculate discounts can offer numerous benefits:

- Maximize Savings: Know whether a sale offers genuine value.
 - Compare Deals: Evaluate different discounts across stores or products.
 - Financial Planning: Make informed decisions to stay within your budget.
 - Detect Overpricing: Recognize if an item isn't discounted as much as it appears.
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Additional Examples and Practice

To better grasp discount calculations, let's explore some related scenarios.

Example 1: A Larger Discount

Suppose a game originally costs \$60, and Carson wants to buy it during a sale where he pays \$36 before tax.

- Original Price: \$60
- Sale Price: \$36

Calculate the discount percentage:

\[

$$\text{Discount} = \$60 - \$36 = \$24$$

]

[

$$\text{Discount Percentage} = \left(\frac{\$24}{\$60} \right) \times 100 = 0.4 \times 100 = 40\%$$

]

Interpretation: The game is being offered at a 40% discount.

Example 2: No Discount Scenario

Original price: \$50

Paid amount: \$50

- No discount applied, so discount percentage is 0%.

Practice Exercise:

If a game has a label price of \$70 and is sold at a discount of 25%, what is the sale price?

Solution:

[

$$\text{Discount Amount} = 25\% \times \$70 = 0.25 \times \$70 = \$17.50$$

]

[

$$\text{Sale Price} = \$70 - \$17.50 = \$52.50$$

]

Tips for Shopping During Sales

Knowing how to calculate discounts is valuable, but here are additional tips for making the most of sales:

- Always check the original price: Ensure the sale price is genuinely discounted.
- Compare prices: Look at different stores or online platforms.
- Understand the discount type: Is it a percentage off or a fixed dollar amount?
- Consider the total cost: Include taxes and fees when budgeting.
- Set a budget: Avoid impulse buys, even during sales.

Conclusion

In Carson's case, the calculation reveals a 30% discount on the video game, meaning he paid 70% of the original price. Recognizing such discounts empowers consumers to make more informed purchasing decisions, ensuring they get the best value for their money.

Understanding how to compute discount percentages is a fundamental math skill with practical applications in shopping, budgeting, and financial literacy. Whether you're buying video games, clothing, or electronics, mastering these calculations helps you save money and shop smarter.

Additional Resources

For those interested in further exploring discounts, percentages, and shopping tips, consider the following resources:

- Math Tutorials: Websites like Khan Academy offer free lessons on percentages and discounts.
- Budgeting Apps: Use apps to track discounts and savings.
- Shopping Guides: Read articles on how to identify genuine sales and avoid overpaying.

Remember, the key to saving is understanding the numbers behind the deals. Happy shopping!

Frequently Asked Questions

How do you calculate the percent discount when the original price and the sale price are known?

Subtract the sale price from the original price to find the discount amount, then divide that by the original price and multiply by 100 to get the percent discount.

What is the percent discount Carson received on the video game?

Carson paid \$28 for a game originally priced at \$40. The discount amount is $\$40 - \$28 = \$12$. The percent discount is $(\$12 / \$40) \times 100 = 30\%$.

If the original price is \$40 and Carson paid \$28 before tax, what is the discount percentage?

The discount percentage is 30%, calculated as $((\$40 - \$28) / \$40) \times 100$.

Why is it important to know the discount percentage when shopping?

Knowing the discount percentage helps you understand how much you're saving and compare deals to ensure you're getting the best value.

Can you verify Carson's discount percentage using the given prices?

Yes. The discount is \$12 on a \$40 item, so the discount percentage is $(\$12 / \$40) \times 100 = 30\%$.

Carson received a 30% discount.

Additional Resources

Understanding Discounts in Retail: An In-Depth Look at Carson's Video Game Purchase

Shopping for the perfect video game often involves more than just choosing a title; it includes understanding the pricing, discounts, and how much you're truly saving. When Carson went shopping for a new game during a sale, he encountered a common scenario: a tagged price, a discounted price, and the need to calculate the percent discount. This article explores this example in detail, breaking down the process step-by-step, and offers insights into how discounts work in retail environments.

The Context of Carson's Purchase

Imagine Carson, an avid gamer, browsing his favorite electronics or gaming store. He spots a popular new release, and the price tag reads \$40. However, during the store's sale, he pays \$28 before tax, which leads to a natural question: What is the percent discount offered on this game?

This scenario is commonplace in retail shopping, and understanding how to calculate discounts is essential for consumers to make informed purchasing decisions. It helps evaluate whether a deal is

genuinely good and how much they're saving compared to the original price.

Breaking Down the Pricing Components

Before diving into the calculations, let's clarify the key figures involved:

- Original Price (Marked Price): The price listed on the tag, which is \$40.
- Sale Price (Paid Price): The amount Carson paid before tax, which is \$28.
- Tax: Not included in the calculation of the discount, but important for understanding total expenditure.
- Discount: The reduction in price from the original, expressed as a percentage.

Understanding these components sets the foundation for calculating the discount percentage accurately.

Why Calculate the Percent Discount?

Calculating the discount percentage offers several benefits:

1. Informed Decision-Making: Helps determine if the sale price is a good deal relative to the original price.
2. Comparison Shopping: Allows comparison between different sales and discounts.
3. Budget Planning: Assists in estimating total expenditure, especially when tax is involved.
4. Value Assessment: Provides insight into how much value is being offered during a sale.

In Carson's case, knowing the percent discount clarifies how much he saved and whether the deal was worth the purchase.

Step-by-Step Calculation of Percent Discount

Let's delve into the step-by-step process of calculating the discount percentage based on Carson's scenario.

Step 1: Identify the Original Price and Sale Price

- Original Price (OP): \$40
- Sale Price (SP): \$28

Step 2: Find the Amount Saved

The amount saved is the difference between the original price and the sale price:

$$\begin{aligned} \text{Amount Saved} &= \text{Original Price} - \text{Sale Price} \\ &= \$40 - \$28 = \$12 \end{aligned}$$

Step 3: Calculate the Discount Percentage

The discount percentage is calculated as the ratio of the amount saved to the original price, multiplied by 100:

$$\text{Discount \%} = \left(\frac{\text{Amount Saved}}{\text{Original Price}} \right) \times 100$$

\]

Plugging in the numbers:

\[

$$\text{Discount \%} = \left(\frac{\$12}{\$40}\right) \times 100 = 0.3 \times 100 = 30\%$$

\]

Result: Carson received a 30% discount on the game.

Additional Considerations: Tax and Final Price

While the calculation above focuses on the pre-tax discount, it's important to understand the role of tax in total expenditure:

- Tax Rate: Depending on the location, sales tax varies (e.g., 7%, 8%, or more).
- Total Cost: To determine the total amount paid, tax must be added to the pre-tax price.

Example:

If the sales tax rate is 8%, then:

\[

$$\text{Tax} = \text{Sale Price} \times \text{Tax Rate} = \$28 \times 0.08 = \$2.24$$

\]

Total Price (including tax):

\[

$$\text{\$28} + \text{\$2.24} = \text{\$30.24}$$

\]

This illustrates that while the discount is calculated based on the pre-tax price, the total amount paid includes tax, which can influence the perception of savings.

Understanding the Significance of the Discount Percentage

A 30% discount on a video game is generally considered a significant reduction, especially for new releases. Retailers often offer discounts ranging from:

- 10-15%: Typical for regular sales or clearance.
- 20-30%: Common during promotional sales, indicating a good deal.
- 40-50% or more: Usually during major sales events, such as Black Friday or holiday sales.

Hence, Carson's 30% discount suggests a favorable deal, aligning with typical promotional offers.

Practical Tips for Shoppers: Maximizing Savings

Understanding discounts is not just about simple calculations; it's about strategic shopping. Here are some tips for consumers:

- Always compare the sale price to the original price.

- Calculate the discount percentage to evaluate deal worthiness.
- Be aware of additional costs like taxes and fees.
- Look for percentage discounts rather than just dollar savings to gauge the deal's value.
- Keep an eye on sale periods for maximum savings, such as seasonal or holiday sales.

Applying these strategies can help shoppers like Carson make smarter, more economical purchases.

Conclusion: The Power of Percent Discounts in Retail

Carson's shopping experience exemplifies a common scenario in retail: finding a product at a discounted price and wanting to quantify the savings. By understanding how to calculate the percent discount, consumers can better assess deals and ensure they're getting value for their money.

In his case, paying \$28 for a game marked at \$40 indicates a 30% discount—an attractive offer that likely contributed to his decision to purchase during the sale. Recognizing such discounts empowers shoppers to navigate sales confidently, make informed choices, and maximize their entertainment budgets.

Remember, whether you're buying video games, electronics, clothing, or any other products, understanding the mathematics behind discounts turns a simple purchase into a smarter shopping experience.

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