

Question 3 (1 Point)A Store Is Having A Sale Where Everything Is 25% Off. A Shirt Has An Original Price

Question 3 (1 Point)A Store Is Having A Sale Where Everything Is 25% Off. A Shirt Has An Original Price

When shopping during a sale, understanding how discounts work is essential to making smart purchasing decisions. In this scenario, a store is offering a 25% discount on all items, and a shirt is listed with its original price. To determine the sale price of the shirt and understand the broader implications of such discounts, it's important to grasp the concepts of percentage discounts, calculations involved, and how to apply these to real-world shopping scenarios. This article will explore these topics in detail, providing clarity on how to approach discounts and maximize your savings.

Understanding Percentage Discounts

What Is a Percentage Discount?

A percentage discount is a reduction in the original price of an item expressed as a percentage of that original price. For instance, a 25% discount means the item's price is decreased by a quarter of its original cost.

Why Do Retailers Use Percentage Discounts?

Retailers use percentage discounts to attract customers, clear out inventory, or promote new products. These discounts can make prices more appealing, encouraging purchases and increasing sales volume.

Calculating the Discounted Price

To find the sale price of a shirt with an original price, the following steps are essential:

1. Identify the original price.
2. Determine the discount amount (percentage of the original price).
3. Subtract the discount amount from the original price to find the sale price.

Let's break down each step with detailed explanations and examples.

Step 1: Know the Original Price

The original price (often called the sticker price or list price) is the cost of the item before any discounts. For our example, assume the original price of the shirt is \$40. (Note: If the original price is not given, you can substitute any amount to practice calculations.)

Step 2: Calculate the Discount Amount

To find the discount amount:

- Convert the percentage discount into a decimal.
- Multiply the original price by this decimal.

Formula:

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$$\text{Discount Amount} = \text{Original Price} \times (\text{Discount Percentage} \div 100)$$

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Example:

- Original Price = \$40
- Discount Percentage = 25%
- Calculation:

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$$\text{Discount Amount} = 40 \times (25 \div 100) = 40 \times 0.25 = \$10$$

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Step 3: Find the Sale Price

Subtract the discount amount from the original price:

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

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Example:

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$$\text{Sale Price} = 40 - 10 = \$30$$

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Thus, after applying a 25% discount, the shirt's sale price would be \$30.

General Formula for Sale Price Calculation

To streamline the process, you can use a single formula that directly computes the sale price:

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Sale Price = Original Price × (1 - Discount Percentage ÷ 100)
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Applying this to our example:

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Sale Price = 40 × (1 - 25 ÷ 100) = 40 × (1 - 0.25) = 40 × 0.75 = $30
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This formula can be used for any original price and discount percentage.

Practical Examples and Applications

Example 1: Different Original Price

Suppose a shirt originally costs \$60, and it's on a 25% off sale.

- Calculate the discount:

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Discount = 60 × 0.25 = $15
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- Find the sale price:

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Sale Price = 60 - 15 = $45
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- Or directly:

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Sale Price = 60 × 0.75 = $45
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Example 2: Calculating the Discount from a Known Sale Price

If you know the sale price and original price but want to find the discount percentage:

- Given:

- Original Price = \$80

- Sale Price = \$60

- Find the discount amount:

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Discount = 80 - 60 = $20
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- Calculate the discount percentage:

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Discount Percentage = (Discount ÷ Original Price) × 100 = (20 ÷ 80) × 100 = 25%
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## Additional Considerations in Discount Calculations

### Rounding and Precision

When calculating sale prices, it's common to round to the nearest cent, especially in financial contexts. Always round to two decimal places for currency.

### Multiple Discounts

Sometimes, items are subject to multiple discounts. To calculate the final price:

- Apply the first discount to the original price.
- Apply the second discount to the new price.
- Continue as needed.

Example:

- Original Price: \$100
- First discount: 25% → New price:

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$$100 \times 0.75 = \$75$$

```

- Second discount: 10% on \$75:

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$$75 \times 0.90 = \$67.50$$

```

## Maximizing Savings During Sales

### Tips for Consumers

- Always know the original price to evaluate the true discount.
- Use the formulas provided to confirm sale prices.
- Compare discounts across different items to maximize savings.
- Consider additional promotions or coupons that can stack with sales.

## Benefits for Retailers and Consumers

- Retailers move inventory quickly, especially seasonal items.
- Consumers benefit from significant savings and better value for money.

## Conclusion

Understanding how to calculate discounts and sale prices is a powerful skill for any shopper. Whether the store offers a 25% discount or any other percentage, applying the correct formulas ensures you know exactly how much you're saving and what you're paying. In our example, a shirt with an original price of \$40, when discounted by 25%, costs only \$30, representing a substantial saving. By mastering these calculations, you can shop more confidently and make informed decisions during sales and promotional events.

Remember: Always double-check your math, consider the impact of taxes if applicable, and enjoy the savings when shopping during sales!

## Frequently Asked Questions

### **If a shirt's original price is \$40, what is the sale price after 25% off?**

The sale price is \$30, calculated as \$40 minus 25% of \$40 (which is \$10).

### **How do you calculate the discount amount when an item is 25% off?**

Multiply the original price by 0.25 to find the discount amount.

### **What is the formula to find the sale price after a 25% discount?**

$\text{Sale Price} = \text{Original Price} \times (1 - 0.25) = \text{Original Price} \times 0.75.$

### **If a shirt costs \$60 originally, what is the price after the 25% discount?**

The sale price is \$45, calculated as  $\$60 \times 0.75.$

### **Is a 25% discount the same as one-quarter off?**

Yes, 25% is equivalent to one-quarter, so a 25% discount is a quarter off the original price.

## **How much money do you save on a \$80 shirt during the sale?**

You save \$20, since 25% of \$80 is \$20.

## **What is the importance of understanding percentages when shopping sales?**

It helps you quickly calculate discounts and the final price, ensuring better money management.

## **If a customer wants to buy multiple shirts at 25% off, how does the discount apply?**

The discount applies individually to each shirt; you subtract 25% from each item's original price.

## **Can you find the original price of an item if you only know the sale price after 25% off?**

Yes, divide the sale price by 0.75 to find the original price.

## **Why might stores choose a 25% discount for sales promotions?**

A 25% discount is attractive to customers, encourages purchases, and still maintains profit margins.

## **Additional Resources**

Discounts and Pricing Strategies: A Deep Dive into a Store's 25% Off Sale on Shirts

In the world of retail, promotional sales are pivotal for attracting customers, clearing inventory, and boosting revenue. Among the various strategies, percentage discounts are among the most common and effective. This article offers an in-depth exploration of a store's sale offering everything at 25% off, focusing specifically on how such discounts impact pricing, consumer perception, and purchasing decisions, with a particular emphasis on shirts—one of the most popular apparel items.

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# Understanding the Basics of Percentage Discounts

## What Does a 25% Discount Mean?

A 25% discount signifies that the original price of an item is reduced by a quarter. To break it down:

- Original Price (OP): The initial price before any discounts.
- Discount Amount (DA): The monetary value reduced from the original price.
- Sale Price (SP): The final price after the discount.

Mathematically, the sale price can be expressed as:

$$SP = OP - (OP \times 0.25)$$

or equivalently,

$$SP = OP \times (1 - 0.25) = OP \times 0.75$$

This means the customer pays 75% of the original price.

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## Calculating the Sale Price of a Shirt

### Example with a Specific Shirt Price

Suppose the original price of a shirt is \$40. Applying a 25% discount:

$$SP = \$40 \times 0.75 = \$30$$

This straightforward calculation demonstrates that the customer saves \$10—a significant reduction that can influence purchasing decisions.

Key points:

- The amount saved is 25% of the original price.
- The final price is always three-quarters of the original.

## General Formula for Any Original Price

If the original price of a shirt is denoted by  $(OP)$ , then:

$$SP = OP \times 0.75$$

and

$$\text{Savings} = OP - SP = OP \times 0.25$$

This formula allows customers and retailers to quickly determine sale prices for any shirt, regardless of the original cost.

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## The Psychological Impact of a 25% Discount

### Perceived Value and Consumer Behavior

Percentage discounts like 25% are particularly effective because they strike a balance—they're substantial enough to attract attention but not so large as to seem unrealistic. From a psychological standpoint:

- Perceived Savings: Customers often perceive a 25% discount as a significant saving, motivating them to purchase.
- Price Anchoring: The original price acts as an anchor, making the discounted price seem like a bargain.
- Urgency and Excitement: Regular sales with such discounts foster a sense of urgency, encouraging immediate purchase.

### Comparison with Other Discount Strategies

While 25% off is common, retailers also employ:

- Flat-Rate Discounts: e.g., \$10 off.
- Buy-One-Get-One (BOGO): Offers that incentivize multiple purchases.
- Tiered Discounts: e.g., 10% off for purchases over \$50, 20% over \$100.

Each has its own psychological and economic implications. Percentage discounts like 25% are transparent and easy for consumers to understand,

making them especially popular.

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## **Implications for Pricing Strategy and Profit Margins**

### **Impact on Retailer Profitability**

While discounts attract buyers, they also reduce profit margins. For example:

- Original Margin (OM): Suppose the shirt costs the store \$20 to produce or acquire.
- Original Selling Price (OP): \$40.
- Profit before discount:  $(\$40 - \$20 = \$20)$ .
- Sale Price (SP): \$30.
- Profit after discount:  $(\$30 - \$20 = \$10)$ .

Thus, the profit per shirt is halved when applying a 25% discount. Retailers often plan for such discounts by:

- Increasing markup on initial pricing.
- Offering discounts on specific items to clear inventory.
- Ensuring overall profitability despite lower margins on sale items.

### **Managing Inventory and Customer Expectations**

A well-structured sale encourages customers to buy more, potentially offsetting lower profit margins per item. Retailers also use such sales to:

- Clear seasonal stock.
- Introduce new product lines.
- Attract new customer demographics.

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### **Additional Considerations: Price Comparisons and Consumer Calculations**

# Comparing Prices Before and After Discount

Understanding how much a customer is saving is crucial. For example:

Original Price	Discount (25%)	Sale Price	Savings
\$20	\$5	\$15	\$5
\$50	\$12.50	\$37.50	\$12.50
\$100	\$25	\$75	\$25

This table illustrates how savings increase proportionally with the original price, reinforcing the value proposition of the sale.

## Break-Even Analysis for Customers

Customers may also analyze whether the sale offers genuine value by comparing the sale price to competitors or the item's perceived worth. For instance, if similar shirts are priced at \$35 elsewhere, the \$30 sale price seems attractive, especially considering the discount's percentage.

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## Practical Tips for Consumers During a 25% Off Sale

- Know the Original Price: Always verify the original price to assess whether the discount is genuine.
- Compare Prices: Check competitors to ensure the sale offers the best deal.
- Prioritize Purchases: Focus on high-quality or essential items rather than impulse buys.
- Calculate Savings: Use the formula  $(OP \times 0.25)$  to understand the monetary benefit.
- Beware of Inflated Prices: Some stores may inflate original prices before applying discounts; research beforehand.

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## Conclusion: The Power and Precision of a 25% Discount

A store's decision to offer everything at 25% off is rooted in a strategic blend of consumer psychology, profit management, and inventory control. For shoppers, understanding how to calculate the sale price and interpret the

discount enhances their purchasing confidence and value perception. For retailers, such discounts, when properly planned, can drive traffic, increase sales volume, and foster customer loyalty.

Whether you're a consumer eyeing that stylish shirt now marked down from \$40 to \$30 or a retailer designing an effective promotional campaign, grasping the nuances of percentage discounts like 25% is essential. It not only demystifies the pricing process but also empowers more informed shopping and selling decisions.

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In summary:

- A 25% discount reduces the original price by a quarter.
- The sale price is always 75% of the original.
- Calculations are straightforward:  $SP = OP \times 0.75$ .
- The savings grow proportionally with the original price.
- Such discounts influence consumer perception positively but require careful margin management by sellers.
- Informed consumers can leverage this knowledge to maximize value during sales.

Understanding these principles ensures that both buyers and sellers navigate sales events effectively, turning discounts into win-win scenarios.

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