

A Clearance Rack Has Items For 75%off. Harriet Uses The Expression 0.75 to Find The New Price Of An Item

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When shopping for deals, few things are more satisfying than snagging a high-quality item at a significant discount. One popular way to save is by exploring clearance racks, which often feature items marked down by as much as 75%. Harriet, an avid bargain hunter, frequently encounters these discounts and employs a simple mathematical expression— 0.75 —to determine the new, reduced price of an item. Understanding how to calculate this quickly can empower shoppers to make smarter purchasing decisions during clearance sales.

In this article, we'll explore the concept of discounts, explain how Harriet uses the expression 0.75 to find sale prices, and provide helpful tips for maximizing savings during clearance shopping.

Understanding Discounts and Price Reductions

What Is a Discount?

A discount is a reduction in the original price of a product, offered by retailers to encourage sales, clear inventory, or attract customers. Discounts are usually expressed as a percentage of the original price.

Common Discount Percentages

- 10% off
- 25% off
- 50% off
- 75% off
- Sometimes even more for special sales

The higher the percentage, the greater the savings. When you see a clearance item marked with a substantial discount like 75%, it means you're paying only a quarter of the original price.

Calculating Sale Prices

To find out how much an item costs after a discount, you need to perform a simple calculation: multiply the original price by the remaining percentage of the price after the discount.

Harriet's Method: Using 0.75 to Find the New Price

Why Use 0.75?

When an item is discounted by 75%, it means you're paying 25% of the original price. Expressed as a decimal, 25% is 0.25. Conversely, the remaining portion you pay is 75%, which is 0.75 in decimal form.

Harriet uses the expression 0.75 because it simplifies the calculation:

- Original Price $\times$ 0.75 = Sale Price

Step-by-Step Calculation

Suppose Harriet finds a jacket originally priced at \$80 on the clearance rack with a 75% discount. Here's how she would calculate the new price:

1. Convert the remaining percentage to a decimal: 75% = 0.75
2. Multiply the original price by this decimal:

$$\$80 \times 0.75 = \$60$$

3. The jacket now costs \$60 after the discount.

General Formula

$$\text{New Price} = \text{Original Price} \times 0.75$$

This simple formula makes it easy to quickly determine the sale price for any item discounted by 75%.

Examples of Calculating Sale Prices Using 0.75

Let's look at some practical examples to reinforce Harriet's method.

Example 1: Discounted Price of a Dress

- Original Price: \$120
- Discount: 75%
- Calculation:
- $\$120 \times 0.75 = \90
- Sale Price: \$90

Example 2: Discounted Price of a Pair of Shoes

- Original Price: \$60
- Discount: 75%
- Calculation:
- $\$60 \times 0.75 = \45
- Sale Price: \$45

Example 3: Discounted Price of a Watch

- Original Price: \$200
- Discount: 75%
- Calculation:
- $\$200 \times 0.75 = \150
- Sale Price: \$150

By practicing this method, Harriet can quickly assess whether a clearance deal is worthwhile and plan her budget accordingly.

Tips for Shopping on a Clearance Rack

1. Know the Original Price

Always check the original price to understand how much you're saving. The discount percentage alone doesn't tell the full story unless you compare it to the original.

2. Use the Decimal Method

Remember that the decimal equivalent of the remaining percentage after a discount is key:

- For 75% off, use 0.75
- For 50% off, use 0.50
- For 25% off, use 0.25

3. Calculate Multiple Items

Create a quick reference chart or use a calculator to rapidly evaluate several items. This helps in decision-making during busy clearance sales.

4. Check for Additional Discounts

Sometimes, clearance items are further reduced or available with coupons. Always ask or look for extra savings opportunities.

5. Inspect the Items Carefully

Ensure the items are in good condition, especially when buying from clearance racks.

Understanding Different Discount Percentages

While Harriet specifically uses 0.75 for 75% off, the same principle applies to other discounts:

Discount Percentage	Decimal Equivalent	Calculation Formula	Example Calculation
50% off	0.50	Original Price $\times$ 0.50	$\$80 \times 0.50 = \40
25% off	0.25	Original Price $\times$ 0.25	$\$120 \times 0.25 = \30
10% off	0.10	Original Price $\times$ 0.10	$\$50 \times 0.10 = \5

This approach makes it straightforward to determine sale prices across various discount levels.

Conclusion: Making the Most of Clearance Deals

Understanding how to calculate the new price of an item after a discount is a valuable skill that can save you money and enhance your shopping experience. Harriet’s use of the expression 0.75 to find the new price after a 75% discount is a simple yet powerful method, applicable to various shopping scenarios.

By mastering this calculation, you can:

- Quickly evaluate whether a clearance item is a good deal
- Budget more effectively
- Make informed decisions during sales events

Next time you visit the clearance rack, remember Harriet's approach and use the formula:

$$\text{New Price} = \text{Original Price} \times 0.75$$

Happy shopping and saving!

Additional Resources

- How to Calculate Discounts and Sale Prices
- Tips for Shopping Smart During Clearance Sales
- Understanding Percentages and Decimals in Everyday Math

Frequently Asked Questions

What does Harriet mean when she uses 0.75 to find the new price after a 75% discount?

Harriet uses 0.75 to represent the remaining 75% of the original price after the discount, meaning she multiplies the original price by 0.75 to find the sale price.

How do you calculate the sale price of an item using a 75% discount?

Multiply the original price by 0.75 to find the discounted price, since 0.75 represents 75% of the original cost.

If an item costs \$40 originally, what is its sale price after a 75% discount using Harriet's method?

Multiply 40 by 0.75: $40 \times 0.75 = \$30$. The sale price is \$30.

Why does multiplying by 0.75 give the new price after a 75% discount?

Because 0.75 represents the remaining 75% of the original price after 25% has been taken off, so multiplying gives the amount you pay after the discount.

Can Harriet's method be used for discounts other than 75%? How?

Yes, for any discount percentage, convert it to its decimal form (e.g., 20% = 0.20), subtract from 1 to find the remaining percentage, and multiply the original price by that decimal.

What is the importance of understanding the decimal form (like 0.75) when calculating discounts?

Using decimal form simplifies calculations, making it easy to find the discounted price by multiplication without complex percentage calculations.

If an item is originally \$60, what is the discounted price using Harriet's method for a 75% off sale?

Multiply 60 by 0.75: $60 \times 0.75 = \$45$. The discounted price is \$45.

Is multiplying by 0.75 the same as subtracting 75% of the original price from the original price? Why or why not?

Yes, because multiplying by 0.75 gives the remaining 75%, which is equivalent to subtracting 25% of the original price from the original price.

How can understanding Harriet's method help in shopping during clearance sales?

It helps quickly calculate the sale price for items on clearance, enabling better budgeting and decision-making during shopping.

Additional Resources

A Clearance Rack Has Items For 75% Off. Harriet Uses The Expression 0.75 to Find The New Price Of An Item

When shopping, especially during sales or clearance events, understanding how discounts work can save you significant money. One common scenario involves items being marked down by a certain percentage, such as 75% off. Harriet, a savvy shopper, often uses the expression 0.75 to determine the new price of an item after such a discount. This simple yet powerful mathematical approach helps her quickly assess the value of merchandise and make informed purchasing decisions. In this article, we will explore the concept of discounts, how to calculate sale prices using decimal expressions like 0.75, and delve into the practical applications, advantages, and limitations of this method.

Understanding Discounts and Their Representation

Before diving into calculations, it's essential to understand what a discount entails and how

it's represented mathematically.

The Concept of Discount

A discount is a reduction in the original price of an item, typically offered to encourage sales, clear inventory, or attract customers during promotional periods. Discounts are usually expressed as a percentage of the original price.

For example:

- 25% off means the item's price is reduced by 25% of its original price.
- 75% off indicates a significant markdown, often used during clearance sales.

Representing Discounts as Decimals

To facilitate calculations, discounts are often converted from percentages to decimal form:

- 25% becomes 0.25
- 75% becomes 0.75

This decimal representation simplifies the process of calculating the sale price, as it allows the use of straightforward multiplication.

How to Calculate the Sale Price Using 0.75

Harriet's method of using 0.75 involves multiplying the original price by this decimal to find the discounted price. Here's how it works:

The Formula

$\text{Sale Price} = \text{Original Price} \times (1 - \text{Discount Percentage})$

Since Harriet uses 0.75 for a 75% discount, the calculation becomes:

$\text{Sale Price} = \text{Original Price} \times 0.25$

This is because:

- The discount is 75%, so the remaining price is 25% ($100\% - 75\% = 25\%$).
- 25% expressed as a decimal is 0.25.

Example:

Suppose the original price of an item is \$100.

- Discounted price = $\$100 \times 0.25 = \25

This calculation confirms that after a 75% discount, the item costs \$25.

Why Use 0.75?

Using 0.75 directly corresponds to the discount percentage. It simplifies mental math or calculator use by immediately providing the multiplier for the remaining price after the discount.

Step-by-Step Calculation Process

To familiarize yourself with the process, here are clear steps Harriet might follow:

1. Identify the original price.
For example, \$120.
2. Determine the discount percentage.
75% off.
3. Convert the discount to decimal form.
 $75\% = 0.75$.
4. Calculate the remaining percentage as a decimal.
 $1 - 0.75 = 0.25$.
5. Multiply the original price by this decimal.
 $\$120 \times 0.25 = \30 .
6. Result:
The item's sale price is \$30.

Applications and Practical Usage

Harriet's approach is widely applicable in various shopping scenarios, especially during clearance sales where deep discounts are prevalent.

Advantages of Using 0.75 in Calculations

- Speed: Rapid mental or calculator-based calculations.
- Simplicity: Clear understanding of the remaining price after a discount.
- Accuracy: Reduces chances of calculation errors compared to manual percentage calculations.
- Versatility: Easily adaptable for other discount rates by changing the decimal multiplier.

Example Scenarios

- Clearance sales at clothing stores.
- End-of-season sales on electronics.
- Promotional discounts in online marketplaces.

Pros and Cons of Using the 0.75 Method

While this method is efficient, it's important to recognize its advantages and limitations.

Pros

- Efficiency: Quick calculations, especially when shopping in person.
- Clarity: Clear understanding of what percentage of the original price remains.
- Ease of Use: No need to memorize complex formulas; just multiply by 0.25 for a 75% discount.

Cons

- Requires understanding of percentages: Users must know how to convert percentages to decimals.
- Potential confusion with multiple discounts: When stacking discounts, calculations can become more complex.
- Not suitable for non-percentage discounts: For fixed dollar discounts, a different approach is needed.

Extensions and Related Calculations

Harriet's technique isn't limited to 75% discounts. It can be generalized for any discount percentage:

- For a 20% discount, multiply by 0.80 (since $1 - 0.20 = 0.80$).
- For a 50% discount, multiply by 0.50.
- For a 10% discount, multiply by 0.90.

This flexibility allows shoppers to quickly evaluate various sale scenarios and determine whether a deal is worth pursuing.

Tips for Effective Use of Discount Calculations

- Always verify the original price before calculating discounts.
- Use calculators for accuracy when dealing with complex discounts or multiple markdowns.
- Compare prices after discounts with other items or outlets to ensure you're getting the best deal.
- Be aware of additional fees or taxes that may apply after the discount.

Conclusion

Understanding how to use the decimal expression 0.75 to find the new price of an item after a 75% discount is an invaluable skill for shoppers like Harriet. This method simplifies complex percentage calculations into straightforward multiplication, saving time and reducing errors. Whether shopping during clearance sales or planning your budget, mastering this approach empowers you to make smarter purchasing decisions and maximize savings. Remember, the core concept is converting the discount percentage into its decimal form and applying it to the original price. With practice, this calculation becomes second nature, making your shopping experience more informed and financially savvy.

Embrace this technique, and turn discounts from confusing percentages into clear, actionable numbers that help you get the best deals every time.

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