

Enola Bought 14 Chicken Wings For \$29.40. How Much Would It Cost For 5 Wings?

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Understanding how to determine the cost of a specific quantity of items based on the price of a larger quantity is a fundamental aspect of basic algebra and proportional reasoning. In this context, Enola purchased 14 chicken wings for \$29.40, and we are asked to find out how much 5 wings would cost. This problem involves calculating the unit price per wing and then applying it to the desired quantity. Such calculations are common in everyday situations, from shopping to budgeting and food ordering.

This article will explore the step-by-step process of solving this problem, including understanding unit prices, setting up proportionate calculations, and verifying the results. We will also discuss related concepts such as unit rate, proportionality, and potential pitfalls to avoid.

Understanding the Problem

Before diving into calculations, it's important to break down the problem:

- Total cost for a known quantity of chicken wings: \$29.40
- Quantity of chicken wings purchased: 14 wings
- Desired quantity: 5 wings
- Goal: Find the total cost for 5 wings

This problem hinges on the assumption that the price per wing remains constant, which is typical unless specified otherwise (e.g., discounts or bulk pricing).

Calculating the Cost Per Wing

The first step is to determine the unit price, or the cost per single chicken wing. This involves dividing the total price by the number of wings purchased.

Step 1: Find the unit price

The formula for the unit price is:

$$\text{Unit Price} = \frac{\text{Total Cost}}{\text{Number of Wings}}$$

\]

Applying the given numbers:

\[

$$\text{Unit Price} = \frac{\$29.40}{14}$$

\]

Step 2: Perform the division

Calculating:

\[

$$\frac{29.40}{14} = 2.10$$

\]

Thus, each chicken wing costs \$2.10.

Calculating the Cost for 5 Wings

Once the unit price is known, calculating the cost for any other quantity is straightforward: multiply the unit price by the desired number of wings.

Step 1: Multiply the unit price by 5

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$$\text{Cost for 5 wings} = 2.10 \times 5$$

\]

Step 2: Perform the multiplication

\[

$$2.10 \times 5 = 10.50$$

\]

Therefore, the cost for 5 chicken wings would be \$10.50.

Summary of the Calculation

- Cost per wing: \$2.10
- Cost for 5 wings: \$10.50

This simple proportional calculation demonstrates that, under the assumption of constant pricing, 5 wings would cost \$10.50.

Additional Considerations and Variations

While the above calculation is straightforward, there are other factors and scenarios worth considering.

1. Price Variations and Discounts

In real-world situations, prices might not be linear. For example:

- Bulk discounts for larger quantities
- Special pricing or promotional offers
- Variable pricing based on wing size or quality

If any of these factors are present, the simple proportional calculation may not be accurate, and more detailed data would be needed.

2. Price per Wing as a Fraction or Percentage

Sometimes, expressing the cost per wing as a percentage of the total or as a fraction provides additional insight:

- Fraction: $\frac{2.10}{\text{Total Cost}}$
- Percentage: $\frac{2.10}{29.40} \times 100\% \approx 7.14\%$

This shows that each wing accounts for approximately 7.14% of the total cost.

3. Real-world Applications

Understanding unit prices enables consumers to compare deals more effectively, such as:

- Comparing prices at different restaurants or stores
- Calculating expenses for large orders
- Budgeting for events or parties

Common Mistakes to Avoid

When performing similar calculations, be mindful of:

- Incorrect division: Always divide total cost by the number of units to find the unit price.
- Assuming variable prices: Prices may not be constant; verify if discounts or additional charges apply.
- Misinterpretation of units: Ensure units are consistent; for example, if dealing with weight, convert units as necessary.
- Rounding errors: Use appropriate rounding, especially when dealing with currency.

Practice Problems

To reinforce understanding, consider these practice questions:

1. If 20 chicken wings cost \$30, what is the cost of 7 wings?
2. Suppose a pack of 10 wings costs \$15.50. How much would 3 wings cost?
3. A restaurant charges \$8 for 4 wings. What is the price per wing, and how much for 9 wings?

Solutions involve repeating the process: find unit price and then multiply for desired quantity.

Conclusion

Calculating the cost of a specific quantity of items based on a known total price is a fundamental mathematical skill with practical applications. In Enola's case, knowing that 14 chicken wings cost \$29.40 allows us to determine that each wing costs \$2.10. Consequently, the cost for 5 wings is \$10.50. Understanding how to perform these calculations helps in making informed purchasing decisions, comparing prices, and managing budgets efficiently.

Remember, always verify whether prices are consistent and consider any potential discounts or variable pricing scenarios. Mastering these basic proportional calculations provides a strong foundation for more complex financial and mathematical problem-solving in everyday life.

Frequently Asked Questions

How do I find the cost per chicken wing based on Enola's purchase?

Divide the total cost (\$29.40) by the number of wings (14) to find the cost per wing: $\$29.40 \div 14 = \2.10 per wing.

What is the cost of 5 chicken wings based on the unit price?

Multiply the cost per wing (\$2.10) by 5: $5 \times \$2.10 = \10.50 .

If Enola bought 14 wings for \$29.40, how much would 20 wings cost at the same rate?

First, find the cost per wing (\$2.10), then multiply by 20: $20 \times \$2.10 = \42.00 .

Is the price per wing consistent regardless of the number of wings purchased?

Yes, assuming the price per wing remains the same, the cost per wing is constant at \$2.10.

How would I calculate the total cost for any number of chicken wings?

Determine the cost per wing and multiply it by the desired number of wings. For example, for 10 wings: $10 \times \$2.10 = \21.00 .

What is the unit rate of chicken wings in dollars per wing?

The unit rate is \$2.10 per wing.

If I want to buy 5 wings, how much should I expect to pay?

You should expect to pay approximately \$10.50 based on the unit rate.

Can I find the cost of 5 wings without calculating the unit price first?

Yes, if you know the total cost for 14 wings, you can set up a proportion: $14 \text{ wings} / \$29.40 = 5 \text{ wings} / x$, then solve for x to find the cost for 5 wings.

Additional Resources

Enola Bought 14 Chicken Wings For \$29.40. How Much Would It Cost For 5 Wings?

When it comes to ordering chicken wings, whether at a restaurant, a party, or for a snack, understanding the cost per wing can help you make smarter purchasing decisions and manage your budget more effectively. In this analysis, we will explore how to determine the cost of a specific number of wings based on a given total price. Specifically, we'll examine the scenario where Enola bought 14 chicken wings for \$29.40 and then calculate how much 5 wings would cost based on that data.

This type of problem involves basic principles of unit price calculation and proportional reasoning, which are useful in many everyday financial and shopping contexts. Let's delve into the details step by step, so that you can confidently perform similar calculations in the future.

Understanding the Problem

The core of the problem involves two key pieces of information:

- Total number of wings purchased: 14 wings
- Total amount paid: \$29.40

From this, we need to find the cost for a different quantity of wings, specifically 5 wings.

Step 1: Find the Cost Per Wing

The first logical step is to determine the cost of one chicken wing based on the given data.

How to do this:

- Divide the total cost by the total number of wings to find the unit price per wing.

Calculation:

$$\text{Cost per wing} = \frac{\text{Total cost}}{\text{Number of wings}} = \frac{\$29.40}{14}$$

Performing the division:

$$\frac{\$29.40}{14} = \$2.10$$

Result:

- Each wing costs \$2.10.

This is a crucial step because it allows us to scale the cost to any number of wings.

Step 2: Calculate the Cost for 5 Wings

With the unit price known, calculating the cost for 5 wings becomes straightforward.

How to do this:

- Multiply the number of wings desired by the unit price per wing.

Calculation:

$$\text{Cost for 5 wings} = 5 \times \$2.10 = \$10.50$$

Result:

- Five wings would cost \$10.50.

Step 3: Considerations and Variations

While this calculation provides a clear answer based on the given data, it's important to recognize certain factors that could influence the actual cost in real-world scenarios:

1. Pricing Variability

- The price per wing might fluctuate depending on the restaurant, supplier, or promotional offers.
- Bulk discounts or deals might alter the unit price for larger orders.

2. Additional Costs

- If applicable, taxes, tips, or service charges could increase the final amount.
- Some establishments might charge a premium for extra sauces, sides, or special preparations.

3. Portion Size Consistency

- The calculation assumes each wing costs the same, which is reasonable if the wings are uniformly sized and priced.
- In some cases, wings might vary in size or quality, affecting the unit price.

Step 4: Generalized Formula for Cost Calculation

To extend this type of calculation to any scenario, you can use a simple formula:

$$\text{Cost for } n \text{ wings} = \left(\frac{\text{Total cost}}{\text{Total wings purchased}} \right) \times n$$

Where:

- Total cost = the total amount paid for a known number of wings
- Total wings purchased = the number of wings that correspond to the total cost
- n = the desired number of wings

Applying this formula:

Given Enola's data:

$$\text{Cost for } n = \left(\frac{\$29.40}{14} \right) \times n$$

For 5 wings:

\[

$$\text{Cost} = \$2.10 \times 5 = \$10.50$$

\]

Step 5: Practical Applications

Understanding how to determine the cost per wing and scale that to different quantities has several practical benefits:

- Budget Planning: Knowing the unit price helps you estimate costs for larger or smaller orders.
- Comparative Shopping: When choosing between different vendors, compare their unit prices to find the best deal.
- Customization: If you want to order a specific number of wings that aren't offered in fixed packages, you can calculate exactly how much it would cost.

Additional Tips for Consumers

- Always ask for the unit price when ordering in restaurants or stores. This helps you compare options more objectively.
- Check for specials or discounts that might reduce the unit price, especially for bulk orders.
- Be aware of hidden costs like taxes, tips, or extra charges for sauces or sides that could affect your total.

Summary

In conclusion, by analyzing Enola's purchase of 14 chicken wings for \$29.40, we've determined that:

- The cost per wing is \$2.10.
- The cost for 5 wings is \$10.50.

This straightforward calculation hinges on dividing the total price by the number of wings to find a per-unit price, then multiplying by the desired quantity. Such basic calculations empower consumers to make informed decisions, plan budgets effectively, and compare prices accurately across different vendors or offers.

Whether you're ordering wings at your favorite restaurant, preparing for a party, or just trying to understand pricing better, mastering this simple proportional reasoning is a valuable skill that can save you money and enhance your purchasing confidence.

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