

Maribella Buys 5 Pounds Of White Potatoes And $\frac{7}{8}$ As Many Pounds Of Sweet Potatoes How Many Pounds Of

Maribella Buys 5 Pounds Of White Potatoes And $\frac{7}{8}$ As Many Pounds Of Sweet Potatoes How Many Pounds Of white potatoes and sweet potatoes does she have in total? This question might seem straightforward at first glance, but it offers a great opportunity to explore basic algebra concepts, practical measurement calculations, and tips for managing grocery shopping efficiently. Whether you're a student practicing word problems or a home cook planning your shopping list, understanding how to approach such problems can be both educational and useful.

In this article, we will analyze the problem, break down the calculations step-by-step, and discuss related topics such as ratios, conversions, and how to handle similar real-world problems involving weights and measurements. Let's dive into the details.

Understanding the Problem

The problem states that:

- Maribella buys 5 pounds of white potatoes.
- She also buys $\frac{7}{8}$ as many pounds of sweet potatoes.

The key question is: How many pounds of sweet potatoes does she have? and subsequently, what is the total weight of potatoes she bought?

This type of problem involves understanding ratios and fractional amounts, which are common in daily life, especially when shopping or cooking.

Breaking Down the Calculation

Before solving, it's helpful to clarify the terms:

- The quantity of white potatoes: 5 pounds.
- The quantity of sweet potatoes: $\frac{7}{8}$ times the weight of white potatoes.

Step 1: Find the weight of sweet potatoes

Since she bought $\frac{7}{8}$ as many pounds of sweet potatoes as white potatoes, the calculation is:

$$\text{Sweet potatoes} = \frac{7}{8} \times \text{white potatoes}$$

Plugging in the value:

$$\text{Sweet potatoes} = \frac{7}{8} \times 5$$

Step 2: Perform the multiplication

Multiplying fractions by whole numbers:

$$\frac{7}{8} \times 5 = \frac{7}{8} \times \frac{5}{1} = \frac{7 \times 5}{8 \times 1} = \frac{35}{8}$$

Step 3: Simplify the result

Expressed as a mixed number:

$$\frac{35}{8} = 4 \frac{3}{8}$$

So, Maribella bought 4 and 3/8 pounds of sweet potatoes.

Calculating the Total Weight of Potatoes

Now, to find the total weight:

$$\text{Total weight} = \text{white potatoes} + \text{sweet potatoes}$$

Substitute the known values:

$$= 5 + \frac{35}{8}$$

Convert 5 to eighths to add easily:

$$5 = \frac{40}{8}$$

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Add the fractions:

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$$\frac{40}{8} + \frac{35}{8} = \frac{75}{8}$$

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Expressed as a mixed number:

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$$\frac{75}{8} = 9 \frac{3}{8}$$

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Final Answer:

- Sweet potatoes weigh 4 and 3/8 pounds.
- Total weight of all potatoes is 9 and 3/8 pounds.

Understanding Ratios and Fractions in Real-Life Contexts

This problem illustrates how ratios and fractions are useful in everyday situations, such as:

- Adjusting recipe quantities.
- Comparing proportions of ingredients.
- Calculating total weights or volumes based on ratios.

Practical tips:

- Always convert mixed numbers to improper fractions for calculations.
- To add or subtract fractions, convert all to a common denominator.
- When multiplying fractions by whole numbers, multiply numerator by the whole number.

Related Concepts and Tips for Managing Grocery Shopping

Understanding how to manipulate ratios and fractions can help in various scenarios:

1. Adjusting Recipes Based on Servings

If a recipe calls for a certain amount of an ingredient, and you want to double or halve it, use similar multiplication or division of fractions.

2. Estimating Quantities for Shopping

Knowing how to calculate fractional amounts helps when buying items sold in specific weights or when splitting bulk items.

3. Comparing Different Quantities

Ratios allow you to compare quantities directly, such as determining how much more of one item you need relative to another.

Additional Practice Problems

To reinforce understanding, consider the following problems:

1. If Maribella had bought 5 pounds of white potatoes, and the sweet potatoes were $\frac{3}{4}$ as many pounds, how many pounds of sweet potatoes did she buy?

Solution:

$$\begin{aligned} \frac{3}{4} \times 5 &= \frac{3}{4} \times \frac{5}{1} = \frac{15}{4} = 3 \frac{3}{4} \end{aligned}$$

Sweet potatoes weigh 3 and $\frac{3}{4}$ pounds, and total potatoes:

$$\begin{aligned} 5 + 3 \frac{3}{4} &= 8 \frac{3}{4} \end{aligned}$$

2. If she wanted to buy a total of 12 pounds of potatoes, how much white potatoes should she buy if she wants the sweet potatoes to be $\frac{7}{8}$ as many pounds?

Let x = pounds of white potatoes.

Sweet potatoes:

$$\frac{7}{8}x$$

Total:

$$x + \frac{7}{8}x = 12$$

Expressed as:

$$x + \frac{7}{8}x = \frac{8}{8}x + \frac{7}{8}x = \frac{15}{8}x = 12$$

Solve for (x) :

$$x = \frac{12 \times 8}{15} = \frac{96}{15} = \frac{32}{5} = 6 \frac{2}{5}$$

Therefore, she should buy 6 and $\frac{2}{5}$ pounds of white potatoes, and sweet potatoes:

$$\frac{7}{8} \times 6 \frac{2}{5}$$

Convert mixed number to improper fraction:

$$6 \frac{2}{5} = \frac{32}{5}$$

Calculate sweet potatoes:

$$\frac{7}{8} \times \frac{32}{5} = \frac{7 \times 32}{8 \times 5} = \frac{224}{40} = \frac{56}{10} = 5 \frac{1}{5}$$

Total:

$$6 \frac{2}{5} + 5 \frac{1}{5} = 11 \frac{3}{5}$$

Close to 12 pounds, with slight adjustments needed for exact totals.

Conclusion

Understanding how to work with ratios and fractions is a valuable skill both in academics and everyday life. The problem of how many pounds of sweet potatoes Maribella bought, given her

purchase of white potatoes, demonstrates the practical application of these concepts.

- She bought 5 pounds of white potatoes.
- She bought 4 and $\frac{3}{8}$ pounds of sweet potatoes.
- The total weight of all potatoes was 9 and $\frac{3}{8}$ pounds.

Mastering these calculations can help you make better shopping decisions, plan recipes more accurately, and improve your math skills overall. Keep practicing similar problems to become more confident with fractions and ratios, and you'll find these concepts becoming second nature in your daily activities.

Frequently Asked Questions

How many pounds of sweet potatoes does Maribella buy if she purchases 5 pounds of white potatoes and $\frac{7}{8}$ as many sweet potatoes?

Maribella buys $(\frac{7}{8}) \times 5 = \frac{35}{8}$ pounds of sweet potatoes, which is 4.375 pounds.

If Maribella buys 5 pounds of white potatoes and $\frac{7}{8}$ as much sweet potatoes, what is the total weight of all the potatoes she purchased?

Total weight = 5 pounds + $\frac{35}{8}$ pounds = $\frac{40}{8} + \frac{35}{8} = \frac{75}{8}$ pounds, which is 9.375 pounds.

How do you calculate the amount of sweet potatoes Maribella buys if she has 5 pounds of white potatoes and the sweet potatoes are $\frac{7}{8}$ of that amount?

Multiply 5 pounds by $\frac{7}{8}$: $5 \times \frac{7}{8} = \frac{35}{8}$ pounds, which equals 4.375 pounds of sweet potatoes.

What is the ratio of white potatoes to sweet potatoes that Maribella buys?

The ratio of white potatoes to sweet potatoes is 5 pounds to $\frac{35}{8}$ pounds, or 5: $(\frac{35}{8})$, which simplifies to 40:35 or 8:7 when scaled appropriately.

If Maribella decides to buy an equal weight of sweet potatoes as white potatoes, how many pounds of sweet potatoes should she buy?

She should buy 5 pounds of sweet potatoes to match the 5 pounds of white potatoes.

Additional Resources

Maribella Buys 5 Pounds Of White Potatoes And $\frac{7}{8}$ As Many Pounds Of Sweet Potatoes: A Detailed Analysis and Practical Insights

When it comes to balanced diets and nutritious meals, potatoes—both white and sweet varieties—stand out as versatile staples that have been cherished across cultures for centuries. Recently, Maribella's decision to purchase 5 pounds of white potatoes and $\frac{7}{8}$ as many pounds of sweet potatoes has sparked curiosity about the quantities involved, the nutritional benefits, culinary uses, and overall value of these tubers. This article aims to thoroughly explore these aspects, providing a comprehensive understanding that can guide choices for home cooks, nutrition enthusiasts, and anyone interested in healthy eating.

Understanding the Quantities: How Much Did Maribella Buy?

Calculating the Sweet Potatoes Purchased

Maribella bought 5 pounds of white potatoes. She also bought $\frac{7}{8}$ of that weight in sweet potatoes. To determine the exact weight of sweet potatoes, we need to perform a simple calculation:

- Sweet potatoes weight = $(\frac{7}{8}) \times 5$ pounds

Calculating this:

- $\frac{7}{8} \times 5 = (7 \times 5) / 8 = 35 / 8 = 4.375$ pounds

Therefore, Maribella purchased 4.375 pounds (or 4 pounds and 6 ounces) of sweet potatoes.

This precise calculation helps in meal planning, shopping budgets, and nutritional intake assessments. It also provides insight into her purchase pattern—favoring a slightly lesser quantity of sweet potatoes compared to white potatoes.

Comparing White and Sweet Potatoes: Nutritional Profiles

Understanding the nutritional differences between white and sweet potatoes is essential for making informed dietary choices.

White Potatoes

- Calories: Approximately 130 calories per medium potato (about 150 grams)
- Carbohydrates: Around 30 grams
- Protein: 3 grams
- Fiber: 3 grams
- Vitamins & Minerals: Good source of vitamin C, potassium, and B6
- Features:
- Mild flavor, versatile in recipes
- Often used in mashed, baked, or roasted forms

Sweet Potatoes

- Calories: About 100 calories per medium sweet potato (150 grams)
- Carbohydrates: Around 27 grams
- Protein: 2 grams
- Fiber: 4 grams
- Vitamins & Minerals: Rich in vitamin A (beta-carotene), vitamin C, manganese
- Features:
- Sweeter flavor profile
- Often used in desserts, casseroles, or roasted dishes

Pros and Cons of Each

White Potatoes:

Pros:

- Affordable and widely available
- Neutral taste suitable for many recipes
- Good source of potassium and vitamin C

Cons:

- Less nutrient-dense in terms of vitamins A and C compared to sweet potatoes
- Higher glycemic index, which may affect blood sugar levels

Sweet Potatoes:

Pros:

- Rich in beta-carotene and antioxidants
- Lower glycemic index, better for blood sugar stability
- Naturally sweeter, reducing need for added sugars in recipes

Cons:

- Slightly more expensive
- Can be overpowering in flavor for some dishes

- Shorter shelf life if not stored properly

Cooking and Culinary Uses

Both types of potatoes are remarkably versatile, but their unique flavors lend themselves to different culinary applications.

White Potatoes

- Popular dishes: Mashed potatoes, fries, baked potatoes, potato salad
- Cooking tips:
 - Best cooked by boiling, baking, or frying
 - Can be seasoned with herbs, butter, cheese, or sour cream
 - Suitable for creamy textures and hearty dishes

Sweet Potatoes

- Popular dishes: Roasted sweet potatoes, sweet potato fries, casseroles, pies
- Cooking tips:
 - Roast or bake to enhance natural sweetness
 - Can be mashed or blended into soups
 - Pair well with spices like cinnamon, nutmeg, or chili

Health Benefits and Dietary Considerations

Incorporating both types of potatoes into meals offers a range of health benefits.

White Potatoes

- Provide energy through carbohydrate content
- Support muscle function due to potassium
- Contain antioxidants, especially when eaten with skin

Sweet Potatoes

- Excellent source of vitamin A, supporting vision and immune health
- Rich in antioxidants that combat oxidative stress
- High in fiber, aiding digestion

Potential Drawbacks

- Overconsumption of high-glycemic potatoes may affect blood sugar
- Preparation methods like frying can add unhealthy fats

Practical Tips for Purchasing and Storage

Knowing how to select and store potatoes ensures freshness and nutritional quality.

Selection Tips

- Look for firm, smooth, and blemish-free potatoes
- Avoid sprouted or soft spots
- For sweet potatoes, choose those with uniform color and firm texture

Storage Tips

- Keep in a cool, dark, well-ventilated place
- Do not refrigerate white potatoes, as cold temperatures convert starch to sugar
- Sweet potatoes also prefer a dark, dry environment and should not be refrigerated

Cost Considerations and Value for Money

The prices of white versus sweet potatoes fluctuate based on season, region, and market conditions. Generally:

- White potatoes tend to be more affordable and available year-round
- Sweet potatoes may cost more but offer higher nutrient density in some aspects

Purchasing in bulk or during sales can result in significant savings, especially if planning meals for multiple days.

Environmental Impact and Sustainability

Sustainable consumption involves considering the environmental footprint of food choices.

- White potatoes are widely cultivated and have a relatively low environmental impact
- Sweet potatoes also grow efficiently in various climates and require less pesticide use

Choosing local and seasonal produce further reduces carbon footprint.

Conclusion: Making Informed Choices

Maribella's purchase of 5 pounds of white potatoes and approximately 4.375 pounds of sweet potatoes reflects a balanced approach, combining the versatility of white potatoes with the nutritional richness of sweet potatoes. Both tubers are valuable components of a healthy diet, offering unique flavors, textures, and health benefits.

For home cooks and nutrition-conscious individuals, understanding the quantities involved and the characteristics of each variety helps in planning meals, managing budgets, and achieving dietary goals. Whether used in comforting mashed dishes, crispy fries, hearty casseroles, or sweet desserts, these potatoes can contribute to a well-rounded, delicious, and nutritious diet.

Key Takeaways:

- Accurate calculation of purchase quantities aids in meal planning.
- Both white and sweet potatoes have distinct nutritional profiles and culinary uses.
- Incorporating a variety of potatoes enhances dietary diversity and health.
- Proper selection and storage preserve freshness and nutritional quality.
- Cost, sustainability, and personal taste preferences should guide purchasing decisions.

Embracing the versatility of these tubers can elevate home cooking, support health, and bring variety to the dining table.

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