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When it comes to solving word problems involving fractions and basic arithmetic, clarity and systematic approach are essential. This particular problem involves a farmer named Thomas who initially has a certain number of chicks, then distributes parts of them to two individuals, Luke and John. The question ultimately asks: How many chicks does Mr. Thomas have remaining after these distributions?

In this article, we will explore this problem in detail, breaking down each step to understand the process, applying mathematical concepts such as fractions, multiplication, and subtraction. We will also discuss why understanding such problems is important, especially in developing foundational math skills.

Understanding the Problem

The problem states:

> Thomas had 120 chicks. Two-fifths of the chicks were given to Luke, and one-fourth of the chicks were given to John. The question is: How many chicks does Mr. Thomas have left after these distributions?

Let's analyze the key points:

- Total chicks initially: 120
- Part given to Luke: 2/5 of total
- Part given to John: 1/4 of total
- Remaining chicks: Total minus the sum of chicks given to Luke and John

Our goal is to determine the number of chicks Mr. Thomas keeps after giving some to Luke and John.

Step-by-Step Solution Approach

To solve this problem systematically, we will follow these steps:

1. Calculate the number of chicks given to Luke.
2. Calculate the number of chicks given to John.
3. Find the total number of chicks given away.
4. Subtract this total from the initial number to find the remaining chicks.
5. Verify the calculations for accuracy.

Let's delve into each step.

Step 1: Calculate Chicks Given to Luke

Since Luke receives 2/5 of the total chicks, we calculate:

Number of chicks given to Luke = Total chicks × Fraction given to Luke

= 120 × (2/5)

To compute this:

- Multiply 120 by 2: 120 × 2 = 240
- Divide by 5: 240 ÷ 5 = 48

Result: Luke receives 48 chicks.

Step 2: Calculate Chicks Given to John

Similarly, John receives 1/4 of the total chicks:

Number of chicks given to John = 120 × (1/4)

Calculations:

- Multiply 120 by 1: 120 × 1 = 120
- Divide by 4: 120 ÷ 4 = 30

Result: John receives 30 chicks.

Step 3: Find Total Chicks Given Away

Now, add the chicks given to Luke and John:

Total given away = 48 (Luke) + 30 (John) = 78 chicks

Step 4: Calculate Remaining Chicks

Subtract the total given away from the initial number:

Remaining chicks = 120 − 78 = 42 chicks

Step 5: Final Answer

Mr. Thomas has 42 chicks remaining after giving away chicks to Luke and John.

Additional Insights and Related Problems

Understanding how to manipulate fractions and perform basic arithmetic operations is vital in solving real-world problems. Here are some related concepts and practice problems you might find useful:

Understanding Fractions in Context

- Fractions represent parts of a whole.
- To find a part of a total, multiply the total by the fraction.
- To find the remaining part, subtract the given parts from the total.

Practice Problems

1. If Thomas had 150 chicks and gave 1/3 to Luke and 1/5 to John, how many chicks does he have left?

2. A farmer has 200 chicks. He gives 3/8 to Luke and 1/4 to John. How many chicks does he keep?

3. Thomas initially had 100 chicks. He gave 2/5 to Luke and 1/4 to John. How many chicks does he have now?

Common Mistakes to Avoid

When working through such problems, be cautious of:

- Incorrect fraction calculations: Always multiply before dividing.
- Misinterpreting the fractions: Ensure fractions are applied to the total number correctly.
- Arithmetic errors: Double-check calculations, especially when multiplying and dividing.
- Neglecting to verify the final answer: Confirm that the sum of parts given away does not exceed the total.

Summary

In conclusion, solving the problem of how many chicks Mr. Thomas has after distributing parts to Luke and John involves:

- Calculating the fractional parts of the total chicks given to each individual.
- Adding these parts to find the total given away.
- Subtracting this total from the initial number to find the remaining chicks.

This process underlines fundamental mathematical skills: understanding fractions, performing multiplication and division, and applying subtraction. Mastering these concepts not only helps in solving similar word problems but

also builds a strong foundation for more advanced mathematics.

Final Answer: Mr. Thomas has 42 chicks remaining after giving parts to Luke and John.

Frequently Asked Questions

How many chicks did Thomas initially have before distributing to Luke and John?

Thomas initially had 120 chicks.

What fraction of the chicks did Thomas give to Luke?

Thomas gave 1/4 of the chicks to Luke.

How many chicks did Luke receive from Thomas?

Luke received 30 chicks (which is 1/4 of 120).

What fraction of the chicks did Thomas give to John?

Thomas gave 2/5 of the chicks to John.

How many chicks did John receive and how many does Thomas have left after distribution?

John received 48 chicks (which is 2/5 of 120). After distributing to Luke and John, Thomas has 42 chicks left.

Additional Resources

Thomas Had 120 Chicks 2/5 Part Given To Luke 1/4 Part Given To John. How Many Chicks Does Mr. Thomas?

In the world of agricultural management and everyday problem-solving, math often plays a crucial role—particularly when it comes to tracking livestock and ensuring fair distribution. A classic example involves Thomas, a poultry farmer, who begins his day with a flock of 120 chicks. As the day progresses, he decides to allocate parts of his flock to his friends Luke and John. The question that naturally arises is: after distributing these chicks, how many are left with Thomas? This seemingly straightforward problem involves fractions, multiplication, and subtraction, making it an excellent illustration of how mathematical reasoning applies in real-world scenarios. Let’s explore this problem step by step, breaking down the math involved to understand how many chicks Mr. Thomas ultimately retains.

Understanding the Problem

The problem statement provides several key pieces of information:

- Thomas starts with 120 chicks.
- He gives 2/5 of his chicks to Luke.
- He then gives 1/4 of his chicks to John.

The primary question is: How many chicks does Mr. Thomas have after these distributions? To solve this, we need to carefully interpret the fractions and apply basic mathematical operations.

Step 1: Calculating the Number of Chicks Given to Luke

Interpreting "2/5 Part Given To Luke"

The phrase indicates that Thomas gives away a fraction of his total chicks to Luke. To find out how many chicks Luke receives, we multiply the total number of chicks by the fraction representing Luke's share:

$$
\text{Chicks given to Luke} = \frac{2}{5} \times 120
$$

Calculating this:

$$
\frac{2}{5} \times 120 = 2 \times \frac{120}{5} = 2 \times 24 = 48
$$

Result: Luke receives 48 chicks.

Implication

Thomas now has:

$$
120 - 48 = 72 \text{ chicks}
$$

remaining after giving chicks to Luke.

Step 2: Calculating the Number of Chicks Given to John

Interpreting "1/4 Part Given To John"

Similarly, Thomas gives a quarter of his remaining chicks to John:

$$
\text{Chicks given to John} = \frac{1}{4} \times \text{Remaining chicks after Luke}
$$

Calculating:

$$
\frac{1}{4} \times 72 = \frac{72}{4} = 18
$$

Result: John receives 18 chicks.

Updating Thomas's remaining chicks

After giving chicks to John, Thomas has:

$$
72 - 18 = 54 \text{ chicks}
$$

left for himself.

Step 3: Final Count of Chicks with Mr. Thomas

Having distributed to both Luke and John, Thomas retains:

$$
\boxed{54}
$$

chicks.

This calculation assumes that the fractions are applied sequentially, based on the remaining number of chicks after each distribution, which aligns with typical problem-solving approaches unless otherwise specified.

Additional Considerations: Clarifying the Approach

Sequential vs. Simultaneous Distribution

An alternative interpretation might consider whether the fractions are calculated based on the original total (120) for both Luke and John simultaneously or sequentially. The step-by-step method used above assumes the distributions are sequential—first to Luke, then to John based on the reduced number.

If both fractions are based on the original total:

- Chicks to Luke: $\frac{2}{5} \times 120 = 48$
- Chicks to John: $\frac{1}{4} \times 120 = 30$

Total given away:

$$
48 + 30 = 78
$$

Remaining:

$$
120 - 78 = 42
$$

Result: Mr. Thomas would have 42 chicks remaining if both fractions are based on the original total.

Which interpretation is correct?

The problem's wording suggests a sequential approach—first giving to Luke, then to John based on the remaining chicks. Therefore, the correct final count is 54 chicks.

Real-World Implications and Applications

While this problem serves as a mathematical exercise, its implications extend into real-world resource management. Understanding how to partition resources accurately ensures fair distribution and helps prevent miscalculations that could lead to losses or disagreements.

Practical scenarios include:

- Distributing livestock or crops among farmers or family members.
- Allocating budget or supplies based on fractional shares.
- Planning inventory logistics in supply chain management.

In each case, clarity about whether fractions are applied sequentially or simultaneously is crucial for precise calculations.

Summary: How Many Chicks Does Mr. Thomas Have?

Bringing all calculations together, here's a quick summary:

Step	Description	Chicks Remaining
Start	Initial number of chicks	120
Give to Luke	$\frac{2}{5} \times 120 = 48$	$120 - 48 = 72$
Give to John	$\frac{1}{4} \times 72 = 18$	$72 - 18 = 54$

Final answer: Mr. Thomas has 54 chicks remaining after distributing to Luke and John.

Final Thoughts

This problem exemplifies how simple fractions and basic arithmetic can be combined to solve everyday questions involving resource allocation. It also highlights the importance of understanding the context and assumptions—such as whether fractions are applied sequentially or simultaneously—when tackling similar problems. For farmers, educators, students, and professionals alike, mastering these fundamental concepts ensures more accurate planning, resource management, and decision-making.

Whether managing a flock of chickens or balancing a budget, the core principles remain the same: break down complex problems into manageable steps, interpret fractions carefully, and always verify your assumptions. In doing so, you turn mathematical exercises into practical tools for everyday success.

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