

Additional Practice 7-10

Subtract Mixed Numbers

Another Look!

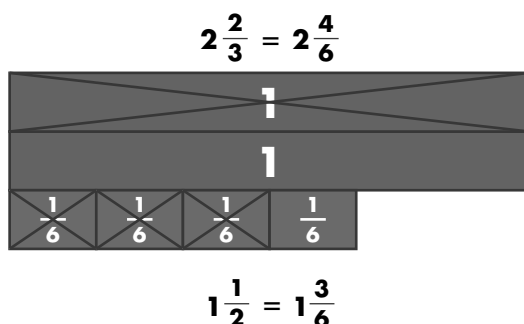
The Plainville Zoo has had elephants for $2\frac{2}{3}$ years. The zoo has had zebras for $1\frac{1}{2}$ years. How many more years has the zoo had elephants?

Remember: You need a common denominator to subtract fractions.



Step 1

Write equivalent fractions with a common denominator. You can use fraction strips.



Step 2

Find the difference $2\frac{4}{6} - 1\frac{3}{6}$. Subtract the fractions. Then subtract the whole numbers.

$$\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$$

$$2 - 1 = 1$$

$$\text{So, } 2\frac{2}{3} - 1\frac{1}{2} = 1\frac{1}{6}.$$

The zoo has had the elephants $1\frac{1}{6}$ years longer.

In 1–9, find each difference.

$$\begin{array}{r} 1. \quad 4\frac{3}{5} = 4\frac{9}{15} \\ - 2\frac{1}{3} = 2\frac{5}{15} \\ \hline 2\frac{4}{15} \end{array}$$

$$\begin{array}{r} 2. \quad 5 \\ - 3\frac{5}{6} \\ \hline 1\frac{1}{6} \end{array}$$

$$\begin{array}{r} 3. \quad 10\frac{5}{8} \\ - 5\frac{3}{4} \\ \hline 4\frac{7}{8} \end{array}$$

$$\begin{array}{r} 4. \quad 5\frac{6}{7} \\ - 1\frac{1}{2} \\ \hline 4\frac{5}{14} \end{array}$$

$$\begin{array}{r} 5. \quad 3 \\ - 1\frac{3}{4} \\ \hline 1\frac{1}{4} \end{array}$$

$$\begin{array}{r} 6. \quad 6\frac{5}{6} \\ - 5\frac{1}{2} \\ \hline 1\frac{1}{3} \end{array}$$

$$7. \quad 7\frac{3}{10} - 2\frac{1}{5} = 5\frac{1}{10}$$

$$8. \quad 9\frac{2}{3} - 6\frac{1}{2} = 3\frac{1}{6}$$

$$9. \quad 8\frac{1}{4} - \frac{7}{8} = 7\frac{3}{8}$$



10. To find the difference of $7 - 3\frac{5}{12}$, how do you rename the 7?

I know that $\frac{12}{12} = 1$. I can rename 7 as $6\frac{12}{12}$.

11. **Higher Order Thinking** Is it necessary to rename $4\frac{1}{4}$ to subtract $\frac{3}{4}$? Explain.

Sample answer: You cannot subtract $\frac{3}{4}$ from $\frac{1}{4}$, so rename $4\frac{1}{4}$ as $3\frac{5}{4}$.

Use the table for 12–15. The table shows the length and width of different bird eggs.

12. How much longer is the Canada goose egg than the raven egg?

$1\frac{1}{2}$ in. longer

13. How much wider is the turtle-dove egg than the robin egg?

$\frac{3}{10}$ in. wider

14. Write the birds in order from the shortest egg to the longest egg.

Robin, turtle dove, raven, Canada goose

15. **Model with Math** Write and solve an equation to find the difference between the length and width of a turtle-dove egg.

$\frac{3}{10}$ in.; $1\frac{1}{5} - \frac{9}{10} = \frac{3}{10}$

Egg Sizes in Inches (in.)		
Bird	Length	Width
Canada goose	$3\frac{2}{5}$	$2\frac{3}{10}$
Robin	$\frac{3}{4}$	$\frac{3}{5}$
Turtle dove	$1\frac{1}{5}$	$\frac{9}{10}$
Raven	$1\frac{9}{10}$	$1\frac{3}{10}$

How can you compare fractions with unlike denominators?



Assessment Practice

16. Choose the correct number from the box below to complete the subtraction sentence that follows.

1 2 6 8 12 18

$$1\frac{5}{6} - \frac{4}{9} = 1\frac{7}{18}$$

17. Choose the correct number from the box below to complete the subtraction sentence that follows.

1 2 3 4 5 6

$$9\frac{5}{12} - 3\frac{2}{3} = 5\frac{3}{4}$$