



Additional Practice 7-11

Add and Subtract Mixed Numbers

Another Look!

A park ranger had $4\frac{1}{8}$ cups of birdseed. He bought $6\frac{1}{4}$ more cups of birdseed. Then he filled the park's bird feeders, using $2\frac{1}{2}$ cups of birdseed. How much birdseed is left?

You can write an expression to help solve the problem: $(4\frac{1}{8} + 6\frac{1}{4}) - 2\frac{1}{2}$



Always perform operations in parentheses first.

Step 1

Add the mixed numbers in parentheses first. Find a common denominator.

$$\begin{array}{r} 4\frac{1}{8} + 6\frac{1}{4} \\ \downarrow \quad \downarrow \\ 4\frac{1}{8} + 6\frac{2}{8} = 10\frac{3}{8} \end{array}$$

Step 2

Subtract $2\frac{1}{2}$ from the sum you found. Find a common denominator.

$$\begin{array}{r} 10\frac{3}{8} - 2\frac{1}{2} \\ \downarrow \quad \downarrow \\ 10\frac{3}{8} - 2\frac{4}{8} \end{array}$$

You can't subtract $\frac{4}{8}$ from $\frac{3}{8}$.
Regroup $10\frac{3}{8}$ as $9\frac{11}{8}$.

$$\begin{array}{r} 9\frac{11}{8} - 2\frac{4}{8} = 7\frac{7}{8} \end{array}$$

Step 3

Find the difference.

So, there are $7\frac{7}{8}$ cups of birdseed left.

In 1–9, solve. Do the operation in parentheses first.

Remember to rename your answer as an equivalent mixed number.

1. $(5\frac{1}{2} + 2\frac{3}{4}) - 3\frac{1}{2}$

2. $10\frac{5}{16} - (5\frac{1}{4} + 2\frac{9}{16})$

3. $5\frac{3}{8} + (6\frac{3}{4} - 4\frac{1}{8})$

4. $\frac{6}{9} + \frac{5}{18} + 1\frac{3}{6}$

5. $1\frac{4}{10} + 1\frac{3}{20} + 1\frac{1}{5}$

6. $(4\frac{2}{3} + 1\frac{1}{6}) - 1\frac{5}{6}$

7. $(3\frac{3}{8} - 1\frac{1}{5}) + 1\frac{7}{8}$

8. $1\frac{6}{7} + (4\frac{13}{14} - 3\frac{1}{2})$

9. $10\frac{5}{8} - (4\frac{3}{4} + 2\frac{5}{8})$



10. Joel is $2\frac{1}{2}$ inches shorter than Carlos. Carlos is $1\frac{1}{4}$ inches taller than Dan. If Dan is $58\frac{1}{4}$ inches tall, how many inches tall is Joel?

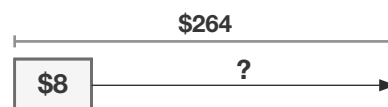
11. Suzy spent $6\frac{7}{8}$ days working on her English paper, $3\frac{1}{6}$ days doing her science project, and $1\frac{1}{2}$ days studying for her math test. How many more days did Suzy spend on her English paper and math test combined than on her science project?

12. **Higher Order Thinking** Veronica needs to buy $1\frac{3}{4}$ pounds of cheese. When the clerk places some cheese in a container and weighs it, the scale shows $1\frac{1}{4}$ pounds. The container weighs $\frac{1}{16}$ pound. How many more pounds of cheese should be added to the scale to get the amount that Veronica needs? Explain how you solved the problem.



13. At a museum, Jenny learned about a fossil that was three billion, four hundred million years old. Write the fossil's age in standard form and expanded form.

14. **Model with Math** Four students raised \$264 for a charity by washing cars. The students received \$8 for each car they washed. How many cars did they wash?



Assessment Practice

15. Which equations are true when $1\frac{3}{4}$ is placed in the box?

- ☐ $2\frac{1}{4} - \frac{6}{7} = \square$
☐ $2\frac{5}{12} - \square = \frac{2}{3}$
☐ $7\frac{1}{12} - 5\frac{3}{8} = \square$
☐ $\square + \frac{7}{10} = 2\frac{9}{20}$

16. Which equations are true when $2\frac{1}{2}$ is placed in the box?

- ☐ $9\frac{1}{8} - 6\frac{3}{4} = \square$
☐ $\square - 1\frac{1}{2} = 1$
☐ $\square + 1\frac{1}{8} = 3\frac{5}{8}$
☐ $1\frac{1}{2} + \frac{5}{8} + \frac{4}{7} = \square$