Name _____

Practice Video Tools Games

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: $\left(4\frac{1}{8} + 6\frac{1}{4}\right) - 2\frac{1}{2}$

Always perform operations in parentheses first.

Step 1 Add the mixed numbers in parentheses first. Find a common denominator.

$$4\tfrac{1}{8} + 6\tfrac{1}{4}$$
$$4\tfrac{1}{8} + 6\tfrac{2}{8} = 10\tfrac{3}{8}$$

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

$$10\tfrac{3}{8} - 2\tfrac{1}{2}$$
$$10\tfrac{3}{8} - 2\tfrac{4}{8}$$

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

Step 3 Find the difference.

$$9\tfrac{11}{8} - 2\tfrac{4}{8} = 7\tfrac{7}{8}$$

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

Remember to rename your answer as an equivalent mixed number.

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

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

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

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

4. $\frac{6}{9} + \frac{5}{18} + 1\frac{3}{6}$ $2\frac{4}{9}$

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

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

7. $\left(3\frac{3}{8} - 1\frac{1}{5}\right) + 1\frac{7}{8}$ $4\frac{1}{20}$

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

9. $10\frac{5}{8} - \left(4\frac{3}{4} + 2\frac{5}{8}\right)$ $3\frac{1}{4}$

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?

57 inches

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?

$5\frac{5}{24}$ days

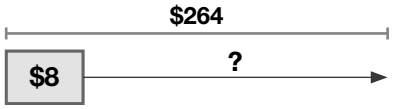
12. **Higher Order Thinking** Veronica needs to buy $1\frac{3}{4}$ pounds of cheese. When the clerk places some cheese in a container and weighs it, the scale shows $1\frac{1}{4}$ pounds. The container weighs $\frac{1}{16}$ pound. How many more pounds of cheese should be added to the scale to get the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

$\frac{9}{16}$ pound; Sample answer: Subtract the weight of the container from the amount on the scale to find the weight of the cheese. $1\frac{1}{4} - \frac{1}{16} = 1\frac{3}{16}$ pounds. Then, subtract the difference from the amount she needs. $1\frac{3}{4} - 1\frac{3}{16} = \frac{9}{16}$

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.

3,400,000,000; 3,000,000,000 + 400,000,000

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?



33 cars

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?

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