NAME_____

Module 6 **Computational Fluency of Fractions**
Lesson 3 **Subtracting Fractions with Unlike Denominators**

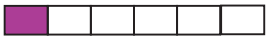
Independent Practice 6.3

Model using fraction bars.

1. $\frac{1}{2} - \frac{1}{6}$

$\frac{1}{2} = \frac{3}{6}$

$\frac{1}{6}$

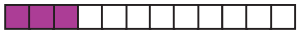


$\frac{1}{3}$

2. $\frac{2}{3} - \frac{1}{4}$

$\frac{2}{3} = \frac{8}{12}$

$\frac{1}{4} = \frac{3}{12}$



$\frac{5}{12}$

Evaluate the expression.

3. $\frac{8}{9} - \frac{1}{3}$

$\frac{5}{9}$

4. $\frac{5}{8} - \frac{1}{2}$

$\frac{1}{8}$

5. $\frac{10}{12} - \frac{5}{18}$

$\frac{5}{9}$

6. $\frac{9}{10} - \frac{4}{5}$

$\frac{1}{10}$

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

$\frac{23}{36}$

8. $\frac{4}{5} - \frac{2}{7}$

$\frac{18}{35}$

9. $\frac{17}{20} - \frac{3}{8}$

$\frac{19}{40}$

10. $\frac{5}{6} - \frac{3}{10}$

$\frac{8}{15}$

11. $\frac{5}{16} - \frac{1}{12}$

$\frac{11}{48}$

12. Nestor took $\frac{7}{8}$ gallon of water to football practice. When he came back home, he had only $\frac{1}{16}$ gallon left. What part of a gallon of water did Nestor drink at practice?

Nestor drank $\frac{13}{16}$ gallon.

13. Coach Fields told John to run $\frac{3}{4}$ mile. So far, John has run $\frac{1}{8}$ mile. How much farther must John run?

John must run $\frac{5}{8}$ mile.

14. Sally put $\frac{2}{3}$ cup of walnuts into a bowl to make cookies. Then, she added another $\frac{1}{4}$ cup of walnuts. Her mom decided this was probably too many walnuts and removed $\frac{1}{8}$ cup of the walnuts. How many walnuts were used in the cookies?

Sally used $\frac{19}{24}$ cup of walnuts in cookies.

15. Moriah bought a plant that was $\frac{9}{10}$ meter tall. She cut off the top $\frac{1}{3}$ meter of the plant. Since then, the plant has grown $\frac{1}{4}$ meter. What is the height of Moriah's plant now?

The plant is $\frac{49}{60}$ meter tall.

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Journal

1. Explain how to subtract $\frac{1}{2}-\frac{1}{8}$ using fraction bars.
2. Explain why the difference of two proper fractions will never be greater than one.
3. Explain how to subtract $\frac{5}{12}-\frac{1}{6}$ without a model.

Cumulative Review

Find the LCM of each pair of numbers.

1. 4 and 16

16

2. 3 and 5

15

3. 6 and 20

60

Evaluate the expression.

4. $\frac{3}{10}-\frac{1}{10}$

$\frac{1}{5}$

5. $\frac{7}{9}-\frac{1}{9}$

$\frac{2}{3}$

6. $\frac{3}{5}+\frac{4}{5}$

$1\frac{2}{5}$

7. $\frac{1}{4}+\frac{11}{20}$

$\frac{4}{5}$

8. $\frac{5}{7}+\frac{5}{8}$

$1\frac{19}{56}$

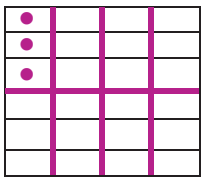
9. $\frac{1}{30}+\frac{3}{4}$

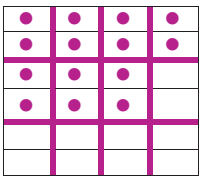
$\frac{47}{60}$

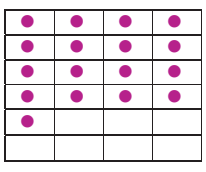
Model using 6 × 4 egg cartons.

10. $\frac{1}{8}+\frac{7}{12}$

$\frac{17}{24}$







Possible Journal Answers

1. **I modeled the minuend by drawing a fraction bar and shading half of it. I modeled the subtrahend by drawing a fraction bar the same size as the minuend's model, by dividing it into eighths, and by shading one part. The parts were not the same size, so I divided each half in the minuend's model into fourths so that the parts were the same size. Then, I crossed out one of those fourths. The remaining three parts were the difference, which was the fraction $\frac{3}{8}$ because it had three shaded parts out of eight total parts.**

2. **In a proper fraction, the numerator is less than the denominator, so the value of the fraction is less than one. To subtract means to take away. If the minuend is already less than one, taking away from it will make the value of the fraction even less.**

3. **First, I find the least common multiple of 12 and six, which is 12. I use that for the common denominator. The first fraction already has 12 as its denominator, so I only have to find an equivalent fraction for the second fraction. Because $6 \times 2 = 12$, I multiply the numerator and denominator of the second fraction by two: $\frac{1 \cdot 2}{6 \cdot 2} = \frac{2}{12}$. Now the problem is $\frac{5}{12} - \frac{2}{12}$. I subtract the numerators and keep the denominator, $\frac{3}{12}$. Last, I simplify $\frac{3 \div 3}{12 \div 3} = \frac{1}{4}$.**