

Additional Practice 7-5

Add and Subtract Fractions

Another Look!

Carla wants to make a Veggie Toss using eggplant, green peppers, spring onions, and mushrooms. She already has eggplant at home. How many pounds of the other ingredients does she need in all? Use data from the recipe.

Veggie Toss Recipe

Eggplant	$\frac{3}{4}$ pound (lb)
Green peppers	$\frac{1}{3}$ pound (lb)
Spring onions	$\frac{1}{4}$ pound (lb)
Mushrooms	$\frac{3}{8}$ pound (lb)

Use what you know about adding and subtracting fractions to solve problems.



Step 1

List the amounts of green peppers, spring onions, and mushrooms. Then, find a common denominator and rename each fraction.

$$\left(\frac{1}{3} + \frac{1}{4}\right) + \frac{3}{8} = \left(\frac{8}{24} + \frac{6}{24}\right) + \frac{9}{24}$$

Step 2

Add the renamed fraction amounts.

$$\frac{14}{24} + \frac{9}{24} = \frac{23}{24}$$

Carla needs $\frac{23}{24}$ pound of the other veggies in all.

In 1–12, find the sum or difference.

1. $\frac{1}{12} + \frac{7}{9} = \frac{31}{36}$

2. $\frac{4}{18} + \frac{2}{9} = \frac{4}{9}$

3. $\frac{1}{3} + \frac{1}{5} = \frac{8}{15}$

4. $\frac{5}{15} + \frac{3}{5} = \frac{14}{15}$

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

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

7. $\left(\frac{1}{2} + \frac{3}{20}\right) - \frac{2}{20} = \frac{11}{20}$

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

9. $\frac{5}{4} - \frac{5}{8} = \frac{5}{8}$

10. $\frac{2}{3} - \frac{2}{7} = \frac{8}{21}$

11. $\frac{12}{15} - \frac{1}{6} = \frac{19}{30}$

12. $\frac{5}{9} - \frac{3}{8} = \frac{13}{72}$



13. The table shows the amounts of two ingredients Tara used to make a snack mix. She ate $\frac{5}{8}$ cup of the snack mix for lunch. How much of the mix is left? Show how you solved.

Ingredient	Amount
Rice Crackers	$\frac{3}{4}$ c
Pretzels	$\frac{2}{3}$ c

$$\left(\frac{3}{4} + \frac{2}{3}\right) - \frac{5}{8} = \frac{19}{24} \text{ cup}$$

14. Samantha is making soup. To make the broth, she combines $\frac{2}{5}$ cup of vegetable stock and $\frac{2}{3}$ cup of chicken stock. Boiling the broth causes $\frac{1}{4}$ cup of the liquid to evaporate. How much broth is left after it is boiled? Show how you solved.

$$\left(\frac{2}{5} + \frac{2}{3}\right) - \frac{1}{4} = \frac{49}{60} \text{ cup}$$

15. **Number Sense** Mary has three lengths of cable, $\frac{3}{6}$ yard long, $\frac{1}{4}$ yard long, and $\frac{1}{3}$ yard long. Which two pieces together make a length of $\frac{20}{24}$ yard?

$$\frac{3}{6} \text{ and } \frac{1}{3}$$

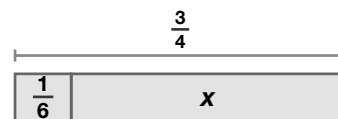
16. A kitten's heartbeat can be as fast as 240 beats per minute. To find the number of times a kitten's heart beats in 30 seconds, Aiden says divide 240 by 30. Do you agree with him? Why or why not?

No. To find the number of beats in 30 seconds, you need to divide by 2, not 30. 30 seconds is half a minute.

17. **Use Structure** Explain how you know the quotients $540 \div 90$ and $5,400 \div 900$ are equal without doing any computation.

Sample answer: Since the dividends and the divisors have the same number of zeros, I can divide 54 by 9 to find the quotient.

18. **Higher Order Thinking** Write an addition and subtraction problem and equation for the diagram. Then find the missing value.



Check students' problems.

$$x = \frac{3}{4} - \frac{1}{6}; x + \frac{1}{6} = \frac{3}{4}; x = \frac{7}{12}$$

Assessment Practice

19. What fraction is missing from the following equation?

$$\frac{5}{6} - \boxed{} = \frac{3}{12}$$

- (A) $\frac{1}{3}$
 (B) $\frac{4}{9}$
 (C) $\frac{7}{12}$
 (D) $\frac{13}{12}$

20. What number is missing from the following equation?

$$\boxed{} - \frac{3}{4} = \frac{2}{12}$$

- (A) $\frac{11}{12}$
 (B) $\frac{8}{16}$
 (C) $\frac{2}{12}$
 (D) 1