

# Math – Grade 4 – Term2 – End of term coverage

Reveal Math  
2023-2024

## On My Own



Name \_\_\_\_\_

How can you complete the equations?

1.  $36 \text{ ones} \div 9 = \underline{4}$  ones

$36 \text{ tens} \div 9 = \underline{4}$  tens

$36 \underline{\text{hundreds}} \div 9 = 4 \text{ hundreds}$

2.  $180 \div 3 = \underline{60}$

$1,800 \div 3 = \underline{600}$

$18,000 \div 3 = \underline{6,000}$

0 : tens

00 : hundreds

000 : thousands

What is the quotient? Use a related multiplication equation to solve.

3.  $48 \text{ tens} \div 6 = ?$

$6 \times 8 \underline{\text{tens}} = 48 \text{ tens}$

So,  $48 \text{ tens} \div 6 = \underline{8 \text{ tens}}$

4.  $35,000 \div 5 = ?$

$5 \times \underline{7,000} = 35,000$

So,  $35,000 \div 5 = \underline{7,000}$

5.  $560 \div 7 = \underline{80}$

6.  $360 \div 4 = \underline{90}$

7. There are 91 students in the school chorus. The chorus conductor puts 7 students in each row. How many rows of students are there?

13 rows

8. Four students equally share 68 binder clips. How many binder clips does

17 binder clips

9. Sasha scores 96 points in 6 games of basketball. She scores the same number of points in each game. How many points does she score in each game?

16 points

10. Raul uses 72 nails to build 3 drawers. He uses the same number of nails for each drawer. How many nails does he use for each drawer?

24 nails

11. **Error Analysis** Marcie says  $84 \div 4 = 20$ . Do you agree or disagree? Explain your reasoning.

I disagree I know  $20 \times 4 = 80$ ,  
so the quotient will be greater than 20.

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Volume 1

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Volume 1

12. **Extend Your Thinking** Mr. Smith has 92 apples to distribute equally into 4 bins. If he distributes 1 apple to each of the 4 bins 10 times, how many apples will be left to distribute?

There will be 52 apples left to distribute.

## Volume 1

7. Will stacked 135 quarters. He put 9 quarters into each stack. How many stacks did he make?

15 stacks

8. Jeremy put 256 baseball cards into 8 binders. Each binder had the same number of baseball cards. How many baseball cards were in each binder?

32 baseball cards

## Volume 1

9. There are 210 workers at the football stadium to help clean up after the game. The workers are divided into 5 equal teams. How many workers are on each team?

42 workers

10. Deborah is making bead necklaces for her friends. She uses 306 beads for 9 necklaces. She uses the same number of beads for each necklace. How many beads does Deborah use for each necklace?

34 beads

11. **Error Analysis** Marsha says she can use 10 as the first three partial quotients when finding  $261 \div 9$ . Do you agree or disagree? Explain your reasoning.

I disagree.; ! After finding the first and second partial quotients of 10, the number remaining will be less than 90.

12. **Extend Your Thinking** How can you find  $316 \div 4$  two different ways by using different partial quotients in each solution?

79;



## On My Own

Name \_\_\_\_\_

What is the quotient? Use the partial quotients to solve.

$$1. \quad 2,200 \div 2 = \underline{1,100}$$

$$\begin{array}{r} 2,200 \\ - 2,000 \quad (2 \times 1,000) \\ \hline 200 \\ - 200 \quad (2 \times 100) \\ \hline 0 \end{array}$$

$$2. \quad 4,840 \div 4 = \underline{1,210}$$

$$\begin{array}{r} 4,840 \\ - 4,000 \quad (4 \times 1,000) \\ \hline 840 \\ - 400 \quad (4 \times 100) \\ \hline 440 \\ - 400 \quad (4 \times 100) \\ \hline 40 \\ - 40 \quad (4 \times 10) \\ \hline 0 \end{array}$$

What is the quotient? Use partial quotients to solve.

$$3. \quad 9,300 \div 3 = \underline{3,100}$$

$$4. \quad 3,240 \div 3 = \underline{1,080}$$

$$5. \quad 3,216 \div 2 = \underline{1,608}$$

$$6. \quad 8,350 \div 5 = \underline{1,670}$$

## On My Own

Name \_\_\_\_\_

How can you solve the problem? Show your work.

1. Caleb makes fruit smoothies. He has 26 strawberries. If Caleb puts 4 strawberries into each smoothie, how many smoothies can he make? How many strawberries will be left over?

**6 smoothies; 2 strawberries left over**

2. There are 48 ounces of water in a pitcher. How many 10-ounce bottles can Sven fill using the pitcher?

**4 bottles**

3. There are 125 chairs to put in rows. Each row can have 20 chairs. How many rows are needed for all the chairs?

**7 rows**

4. Herbert has 147 postcards. He places 6 postcards on a page in his album. How many pages will he need for all his postcards?

**25 pages**

5. Two families will share 5 oranges at a picnic. How many oranges will each family receive if they share all the oranges equally?

$2\frac{1}{2}$  oranges

For exercises 6 and 7, choose the answer that will correctly describe the effect of the remainder for each situation.

6. **STEM Connection** A truck can hold 8 crates of building materials. How many trips will the truck need to make to get 65 crates to the construction site?

- A** The remainder is the solution.
- B** The remainder can be ignored.
- C** The remainder forces the quotient to be the next whole number.
- D** The remainder is partitioned as a fraction.



7. A ribbon is 25 inches long. How many 6-inch pieces can be made?
- A** The remainder is the solution.
- B** The remainder can be ignored.
- C** The remainder forces the quotient to be the next whole number.
- D** The remainder is partitioned as a fraction.
8. A van can hold 9 people. How many trips are needed to get 33 people to the airport? **4; The remainder forces the quotient to the next higher whole number.**
9. There are 94 baseball cards to share equally among 4 friends. How many baseball cards will each friend get? **23; You can ignore the remainder.**
11. **Extend Your Thinking** For the equation  $17 \div 8 = ?$ , create a situation in which the remainder can be ignored.

**There are 17 new pencil sharpeners shared among 8 classes. Each class will receive 2 pencil sharpeners.**

Are the fractions equivalent?

1.  $\frac{2}{6}$  and  $\frac{4}{12}$

Yes

2.  $\frac{4}{10}$  and  $\frac{3}{6}$

No

3.  $\frac{3}{8}$  and  $\frac{1}{3}$

No

4.  $\frac{8}{10}$  and  $\frac{4}{5}$

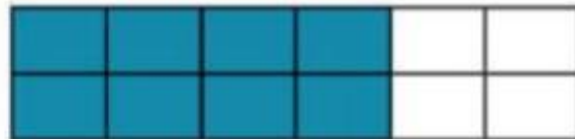
Yes

Use the representation to find the missing number in the equivalent fractions.

5.  $\frac{2}{4} = \frac{\boxed{4}}{8}$



6.  $\frac{8}{12} = \frac{\boxed{4}}{6}$



## Review

6. Which fractions are equivalent to  $\frac{3}{6}$ ? Choose all that apply.

(Lessons 8-1, 8-2)



7. Which fractions are equivalent to the point on the number line?

Choose all that apply. (Lessons 8-1, 8-3)



A  $\frac{2}{4}$

B  $\frac{2}{3}$

C  $\frac{1}{3}$

D  $\frac{8}{12}$

E  $\frac{8}{10}$

F  $\frac{6}{8}$

8. Which fraction is equivalent to  $\frac{4}{10}$ ? (Lesson 8-1)

A  $\frac{2}{5}$

B  $\frac{6}{12}$

C  $\frac{2}{8}$

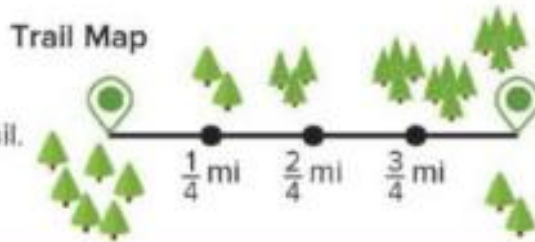
D  $\frac{4}{5}$

**Learn**

Evan has hiked  $\frac{9}{12}$  mile on a trail.

Carlos has hiked  $\frac{1}{2}$  mile on the same trail.

How can you determine where each person is on the trail?



You can multiply the numerator and denominator by 2 to generate an equivalent fraction for  $\frac{1}{2}$ .

$$\frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

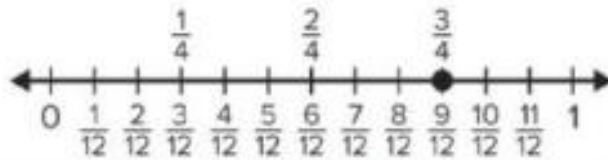
Carlos is at  $\frac{2}{4}$  mile on the trail.



You can divide the numerator and denominator by 3 to generate an equivalent fraction for  $\frac{9}{12}$ .

$$\frac{9 \div 3}{12 \div 3} = \frac{3}{4}$$

Evan is at  $\frac{3}{4}$  mile on the trail.

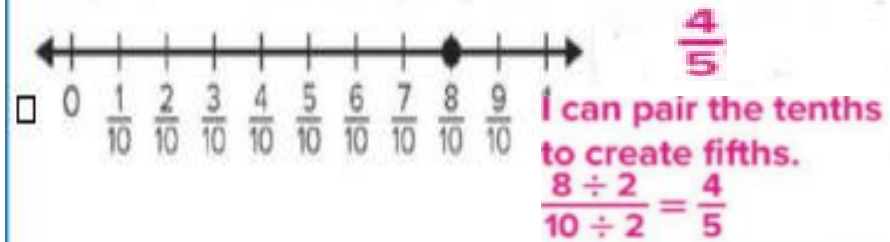
**Math is... Modeling**

How are the number lines and the equations related?

You can multiply or divide the numerator and denominator of a fraction by a fraction equal to 1 to generate equivalent fractions.

**Work Together**

What fraction is equivalent to  $\frac{8}{10}$ ? Use the number line and multiplication or division to explain your answer.





## On My Own

Name \_\_\_\_\_

Use the number line to find an equivalent fraction.



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



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



$$\frac{6}{12} = \frac{1}{2}$$



$$\frac{10}{5} = \frac{12}{12}$$

## On My Own

Name \_\_\_\_\_

How can you decompose the fraction into unit fractions?

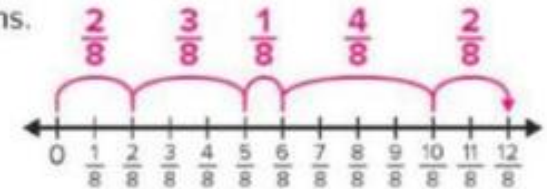
1.  $\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

2.  $\frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

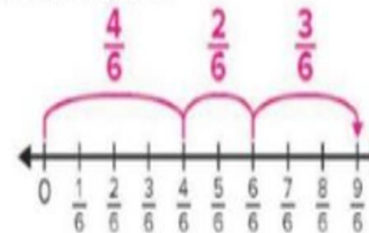
How can you decompose the fraction? Use the number line to justify your answer.

3. Decompose  $\frac{12}{8}$  into a sum of 5 fractions.

$$\frac{12}{8} = \frac{2}{8} + \frac{3}{8} + \frac{1}{8} + \frac{4}{8} + \frac{2}{8}$$

4. Decompose  $\frac{9}{6}$  into a sum of 3 fractions.

$$\frac{9}{6} = \frac{4}{6} + \frac{2}{6} + \frac{3}{6}$$



## Review

9. Which addition expressions show a decomposition of  $\frac{5}{8}$ ? Choose all that apply. (Lesson 9-1)

- A.  $\frac{2}{8} + \frac{3}{8}$   
 B.  $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$   
 C.  $\frac{1}{8} + \frac{1}{8} + \frac{2}{8}$   
 D.  $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$   
 E.  $\frac{1}{8} + \frac{2}{8} + \frac{2}{8}$

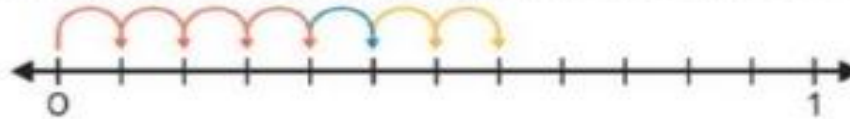
## On My Own

Name \_\_\_\_\_

1. How can you find the sum? Draw a picture to show your thinking

$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{4}{5}$$

2. Aaron used a number line to find the sum of three fractions.



What fractions did Aaron add? What is the sum?

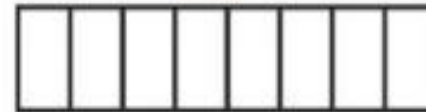
$$\frac{4}{12} + \frac{1}{12} + \frac{2}{12} = \frac{7}{12}$$

How can you find the sum? Use the fraction model to represent the equation.

3.  $\frac{5}{12} + \frac{2}{12} + \frac{3}{12} = \frac{10}{12}$



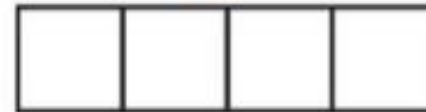
4.  $\frac{2}{8} + \frac{5}{8} = \frac{7}{8}$



5.  $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6}$



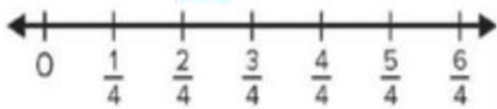
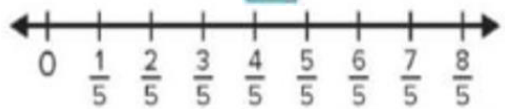
6.  $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$



What is the sum? Use the number line to represent the equation.

$$9. \frac{2}{5} + \frac{2}{5} + \frac{2}{5} = \frac{6}{5}$$

$$10. \frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$



- 13. STEM Connection** Owen is checking a population of butterflies for a unique marking on their wings. In one day, he studies  $\frac{4}{5}$  of the population in the morning and  $\frac{1}{5}$  of the population in the afternoon. How much of the population of butterflies did he study in one day?



$\frac{5}{5}$ , or the whole population.

9. Anu has  $\frac{1}{6}$  meter of wire. She buys  $\frac{3}{6}$  meter more. How much wire does Anu have now?

$\frac{4}{6}$  meter

10. James swims part of a mile using the freestyle stroke. He uses the backstroke for  $\frac{3}{5}$  mile. If he swims  $\frac{4}{5}$  mile in all, how far did James swim using the freestyle stroke?

$\frac{1}{5}$  mile

11. A class sets a goal to collect money for a local charity. They collect  $\frac{2}{10}$  of their goal the first week. After the second week, they had collected  $\frac{6}{10}$  of the total goal. How much of their goal did the class collect in the second week?

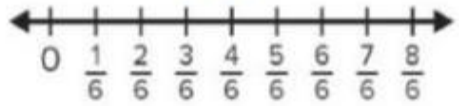
$\frac{4}{10}$  of the total goal

- 14. Extend Your Thinking** Dionne uses  $\frac{3}{10}$  roll of tape to seal some boxes and  $\frac{4}{10}$  roll of tape for an art project. Did Dionne use more than or less than  $\frac{1}{2}$  roll of tape in all? Explain your answer.

Dionne used more than  $\frac{1}{2}$  roll;  
 $\frac{3}{10} + \frac{4}{10} = \frac{7}{10}$  and  $\frac{7}{10}$  is greater than  $\frac{1}{2}$ .

How can you find the difference? Use the number line to represent Volume 2 the equation.

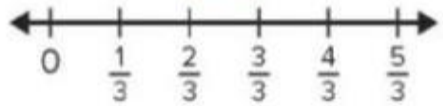
6.  $\frac{7}{6} - \frac{1}{6} = \frac{6}{6}$



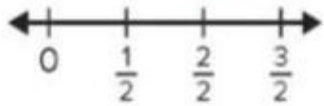
7.  $\frac{8}{5} - \frac{4}{5} = \frac{4}{5}$



8.  $\frac{5}{3} - \frac{2}{3} = \frac{3}{3}$

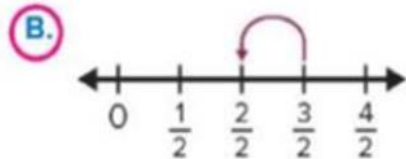
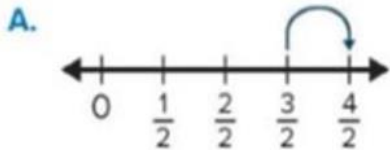


9.  $\frac{3}{2} - \frac{1}{2} = \frac{2}{2}$



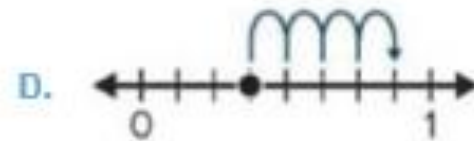
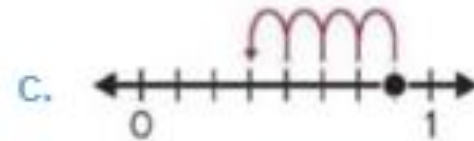
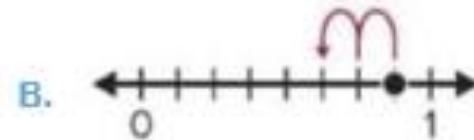
Volume 2

11. Which representation shows  $\frac{3}{2} - \frac{1}{2}$ ?



Volume 2

15. Which number line illustrates the difference  $\frac{7}{8} - \frac{3}{8}$ ? (Lessons 9-4, 9-5)



## On My Own



Name \_\_\_\_\_

How can you decompose the mixed number?

Write equations to represent the decomposition.

1.  $2\frac{3}{5}$

$$2\frac{3}{5} = 1 + 1 + \frac{3}{5}$$

$$2\frac{3}{5} = \frac{5}{5} + \frac{5}{5} + \frac{3}{5}$$

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

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

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

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

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

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

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

$$2\frac{1}{2} = \frac{2}{2} + \frac{2}{2} + \frac{1}{2}$$

$$2\frac{1}{2} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

5. What fraction is equivalent to  $5\frac{2}{3}$ ? Use a representation or equation to justify your answer.

$$\frac{17}{3}$$

$$5\frac{2}{3} = \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3} = \frac{17}{3}$$

6. Linda decomposed a mixed number as  $\frac{2}{2} + \frac{2}{2} + \frac{2}{2} + \frac{2}{2} + \frac{2}{2} + \frac{1}{2}$ .

- a. What mixed number did Linda decompose?

$$5\frac{1}{2}$$

- b. What is another way Linda could decompose the mixed number?

$$2 + 2 + 1 + \frac{1}{2}$$

7. What mixed number is equivalent to  $\frac{17}{6}$ ? Use a representation or equation to justify your answer.

$$2\frac{5}{6}; \quad \frac{17}{6} = \frac{6}{6} + \frac{6}{6} + \frac{5}{6} = 2\frac{5}{6}$$

7. Greg has  $1\frac{3}{4}$  pounds of peaches. He buys another  $3\frac{3}{4}$  pounds of peaches at the store. How many pounds of peaches does Greg have now?

$5\frac{2}{4}$  pounds

8. How can you use the fraction circles to find the sum of  $1\frac{4}{6} + 1\frac{3}{6}$ ?

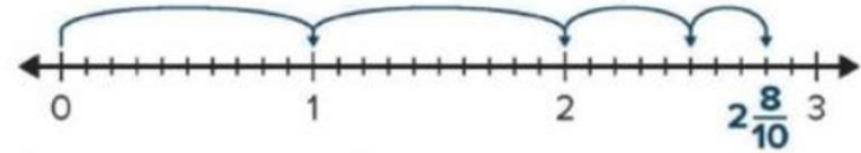


**I can count the total number of sixths shaded. There are  $\frac{19}{6}$  shaded. This can be written as the mixed number  $3\frac{1}{6}$ .**

9. Lynelle has a goal of walking 4 miles each day. Yesterday she walked  $2\frac{5}{8}$  miles in the morning and  $1\frac{5}{8}$  miles in the evening. Did Lynelle meet her goal yesterday? Use a representation to justify your answer.

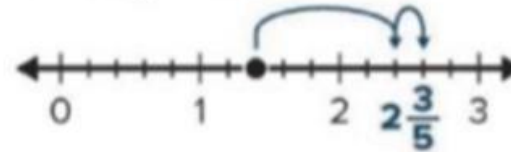
**Yes, Lynelle walked  $4\frac{2}{8}$  miles.**

11. Nate used a number line to find the sum of  $1\frac{5}{10} + 1\frac{3}{10}$ . How can you explain Nate's strategy?



**Nate added the whole number parts of each mixed number first. Then he added the fraction parts of each mixed number.**

17. The number line shows how April solved an addition problem involving mixed numbers.



- a. What is the addition problem April solved? (Lesson 10-2)

$$1\frac{2}{5} + 1\frac{1}{5} = 2\frac{3}{5}$$

- b. Explain the strategy April used to add the mixed numbers. (Lesson 10-2)

**April started at  $1\frac{2}{5}$ . She added the whole-number part of  $1\frac{1}{5}$  first. Then she added the fraction part of  $1\frac{1}{5}$ .**

## On My Own

Name \_\_\_\_\_

What is the sum?

$$1. \quad 3\frac{5}{12} + 4\frac{3}{12} = \boxed{7}\frac{\boxed{8}}{\boxed{12}}$$

$$3. \quad 1\frac{3}{6} + 1\frac{4}{6} = \boxed{3}\frac{\boxed{1}}{\boxed{6}}$$

$$5. \quad 5\frac{3}{8} + 4\frac{4}{8} = \boxed{9}\frac{\boxed{7}}{\boxed{8}}$$

$$2. \quad 2\frac{7}{10} + 2\frac{5}{10} = \boxed{5}\frac{\boxed{2}}{\boxed{10}}$$

$$4. \quad 4\frac{3}{5} + 3\frac{2}{5} = \underline{\boxed{8}}$$

$$6. \quad 2\frac{2}{3} + 3\frac{2}{3} = \boxed{6}\frac{\boxed{1}}{\boxed{3}}$$

10. Andy writes these steps to find the sum of  $2\frac{5}{12} + 1\frac{2}{12}$ . How can you explain the strategy Andy used?

$$\begin{aligned} 2 + 1 &= 3 \\ \frac{5}{12} + \frac{2}{12} &= \frac{7}{12} \\ 3 + \frac{7}{12} &= 3\frac{7}{12} \end{aligned}$$

**Andy added the whole number parts and the fraction parts of the mixed numbers separately. Then he added the sum of the whole numbers and the sum of the fractions.**

11. Lauren plants  $2\frac{3}{8}$  rows of tulips and  $3\frac{7}{8}$  rows of daffodils. How many rows of flowers does Lauren plant? Explain how you found your answer.  **$6\frac{2}{8}$  rows;**

**I added the whole number parts,  $2 + 3 = 5$ . Then I added the fraction parts,  $\frac{3}{8} + \frac{7}{8} = \frac{10}{8} = 1\frac{2}{8}$ . Then I added the sums,  $5 + 1\frac{2}{8} = 6\frac{2}{8}$ .**

12. **Extend Your Thinking** What are possible missing numbers? Justify your answer.

$$1\frac{\boxed{4}}{5} + 2\frac{\boxed{2}}{5} = \boxed{4}\frac{1}{5}$$

## On My Own

Name \_\_\_\_\_

What is the difference? Use a representation to show your work.

$$1. \quad 4\frac{2}{4} - 3\frac{3}{4} = \frac{\boxed{3}}{\boxed{4}}$$

$$2. \quad 3\frac{2}{3} - 2\frac{1}{3} = \frac{\boxed{1}}{\boxed{3}}$$

$$3. \quad 2\frac{7}{8} - 1\frac{3}{8} = \frac{\boxed{1}}{\boxed{8}} \frac{\boxed{4}}{\boxed{8}}$$

$$4. \quad 3 - \frac{4}{5} = \frac{\boxed{2}}{\boxed{5}} \frac{\boxed{1}}{\boxed{5}}$$

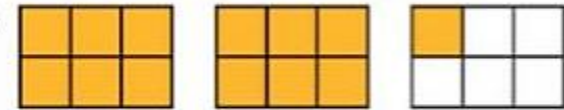
$$5. \quad 3\frac{4}{6} - 1\frac{3}{6} = \frac{\boxed{2}}{\boxed{6}} \frac{\boxed{1}}{\boxed{6}}$$

$$6. \quad 3\frac{4}{6} - 1\frac{5}{6} = \frac{\boxed{1}}{\boxed{6}} \frac{\boxed{5}}{\boxed{6}}$$

7. Stella and Darius go to the same school. Stella's house is 5 miles from the school. Darius's house is  $3\frac{9}{10}$  miles from the school. How much farther is Stella's house from the school than Darius's house? Use a representation to justify your answer.

$1\frac{1}{10}$  miles

8. How can you use the fraction model to solve  $2\frac{1}{6} - 1\frac{3}{6}$ ?



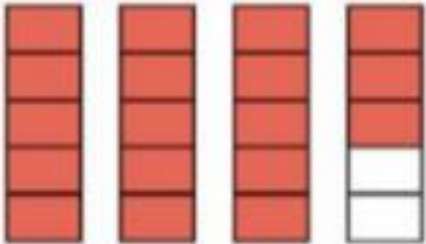
I can take away one whole and three of the  $\frac{1}{6}$  shaded parts. There are four  $\frac{1}{6}$  shaded parts left. The difference is  $\frac{4}{6}$ .

9. Norman has a goal to read  $2\frac{1}{3}$  hours this week. He has to read another  $1\frac{2}{3}$  hours to reach his goal. How much time has Norman read so far?

$\frac{2}{3}$  hour



8. How can you use the fraction model to solve the equation shown?  $3\frac{3}{5} - 1\frac{4}{5} = ?$  (Lesson 10-4)



You can cross out five shaded parts to subtract 1 whole and four more shaded parts to subtract  $\frac{4}{5}$ .

How can you estimate a range for the quotient?  
Write equations to show your work.

5.  $749 \div 8$

$$720 \div 8 = 90;$$

$$800 \div 8 = 100; 90 \text{ to } 100$$

7.  $3,297 \div 8$

$$3,200 \div 8 = 400;$$

$$4,000 \div 8 = 500; 400 \text{ to } 500$$

6.  $522 \div 7$

$$490 \div 7 = 70;$$

$$560 \div 7 = 80; 70 \text{ to } 80$$

8.  $6,428 \div 9$

$$6,300 \div 9 = 700;$$

$$7,200 \div 9 = 800;$$

$$700 \text{ to } 800$$

## Learn

Avery's classroom library has 235 books in one bookcase. The bookcase has 8 shelves. Each shelf has the same number of books on it.



How many books are on each shelf?

You can divide to solve the problem.

$$235 \div 8 = ?$$

Use the partial quotients strategy.

$$\begin{array}{r} 235 \\ -160 \\ \hline 75 \\ -72 \\ \hline 3 \end{array}$$

$(8 \times 20)$

$(8 \times 9)$

Think: What number times 8 is closest to 235?

235 cannot be divided evenly into 8.

There is a **remainder** of 3.

a remainder

Add the partial quotients and write the remainder.

$$235 \div 8 = 29 \text{ R}3$$

The remainder can be shown with the letter R.

### Math is... Connections

In the partial-quotients strategy, what indicates that there is a remainder?

There are 29 books on each shelf with 3 books left over.

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Volume 1

## Work Together

Avery's school purchased 7,220 books for the students. If each student receives 6 books, how many books will be left over?

remainder

Use the partial-quotients strategy to solve the problem.

2 books

8. A restaurant has \$609 to buy cups. If each box of cups costs \$9, how many boxes can the restaurant purchase? How much money will be left over?

remainder

67 boxes of cups; \$6 left over.

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Volume 1

9. A party planner has 275 balloons for a party. How many tables can he have with 6 balloons on each table? How many balloons will be left over?

**45 tables; 5 balloons left over.**

10. George has \$20 and wants to buy snow cones for his friends. The snow cones are \$3 each. How many snow cones can he buy? How much money will he have left?

**6 snow cones; \$2 left over**

11. When you solve a division problem, how do you know if you have a remainder?

**You have a remainder when you cannot share the dividend into equal groups.**

12. **Extend Your Thinking** For the dividend 1,240, how do you know that dividing by 2, 5, and 10 will not result in a remainder?

**Since the dividend ends in 0, I know that dividing by 5 or 10 will not result in a remainder. Since the divisor is even, I know that dividing by 2 will not result in a remainder.**

## On My Own

Name \_\_\_\_\_



How can you compare the fractions using benchmark numbers?

Write  $>$ ,  $<$ , or  $=$  to record the comparison.

1.  $\frac{4}{6} < \frac{9}{10}$

2.  $\frac{6}{12} = \frac{4}{8}$

3.  $\frac{3}{4} > \frac{4}{10}$

4.  $\frac{4}{3} > \frac{7}{8}$

5. Which fractions are greater than  $\frac{7}{12}$ ? Choose all that apply.

A.  $\frac{2}{10}$

B.  $\frac{6}{5}$

C.  $\frac{3}{6}$

D.  $\frac{8}{10}$

6. Which fractions are less than  $\frac{5}{8}$ ? Choose all that apply.

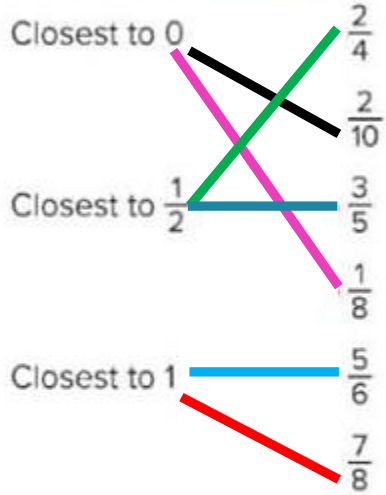
A.  $\frac{2}{6}$

B.  $\frac{3}{2}$

C.  $\frac{9}{10}$

D.  $\frac{4}{12}$

11. Match each fraction to the benchmark number it is closest to. (Lesson 8-4)



12. Complete the comparisons using  $>$ ,  $<$ , and  $=$ . (Lessons 8-4, 8-5)

$\frac{3}{4} < \frac{10}{12}$   
 $\frac{2}{6} < \frac{4}{5}$   
 $\frac{7}{8} > \frac{6}{10}$

13. Which fractions are greater than  $\frac{3}{8}$ ? Choose all that apply. (Lessons 8-4, 8-5)

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| A $\frac{1}{6}$                   | B $\frac{1}{4}$                    |
| <b>C <math>\frac{2}{3}</math></b> | <b>D <math>\frac{4}{5}</math></b>  |
| E $\frac{2}{12}$                  | <b>F <math>\frac{5}{10}</math></b> |

7. Russel and Toby each bought a medium box of popcorn. Russel ate  $\frac{3}{5}$  of his popcorn and Toby ate  $\frac{6}{8}$  of his popcorn. Did Russel eat more popcorn than Toby? Explain your reasoning.

No Toby ate more popcorn than Russel.  
 $\frac{3}{5}$  is equivalent to  $\frac{6}{10}$  and  $\frac{6}{10} < \frac{6}{8}$ .

8. Klaya compares two fractions. She writes one of the fractions as an equivalent fraction so the fractions have like denominators. What fractions might Klaya be comparing? Explain your reasoning.

Klaya could be comparing  $\frac{2}{3}$  and  $\frac{5}{6}$ . She can rewrite  $\frac{2}{3}$  as the equivalent fraction  $\frac{4}{6}$  so the fractions have like denominators.

9. Ethan and Petra have the same number of raffle tickets to sell. Ethan sold  $\frac{1}{4}$  of his raffle tickets. Petra sold  $\frac{3}{8}$  of her raffle tickets. Who sold more tickets? Explain your reasoning.

Petra;  $\frac{1}{4}$  is equivalent to  $\frac{2}{8}$  and  $\frac{2}{8} < \frac{3}{8}$ .

10. Lilliana compares  $\frac{4}{10}$  and  $\frac{5}{12}$  by finding equivalent fractions. Brad compares the same fractions using a benchmark fraction. Which strategy do you think is more efficient to compare the fractions? Explain your reasoning.

I think Brad's strategy is more efficient since one of the fractions is less than  $\frac{1}{2}$  and the other fraction is greater than  $\frac{1}{2}$ .

11. **Error Analysis** Janet's family eats  $\frac{4}{8}$  of a large pizza. Julie's family eats  $\frac{3}{6}$  of a small pizza. Julie says her family ate the same amount as Janet's family because  $\frac{4}{8} = \frac{3}{6}$ . Is Julie correct? Explain. **No;  $\frac{4}{8}$  and  $\frac{3}{6}$  are not equivalent fractions because they do not refer to the same whole.**

12. **Extend Your Thinking** How can you use equivalent fractions to compare  $\frac{2}{3}$  and  $\frac{3}{4}$ ? **I can find an equivalent**

**fraction for both fractions so they each have a denominator of 12.  $\frac{2}{3} = \frac{8}{12}$  and  $\frac{3}{4} = \frac{9}{12}$ .  $\frac{8}{12} < \frac{9}{12}$ , so  $\frac{2}{3} < \frac{3}{4}$ .**

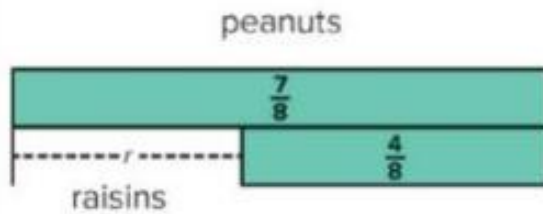
**Learn**

Graham makes his own trail mix. Graham uses  $\frac{7}{8}$  pound peanuts in the trail mix. He uses  $\frac{4}{8}$  pound less raisins than peanuts.

**What is the total weight of the trail mix?**

Some problems have more than one question to answer.

**Step 1:** What is the weight of the raisins that Graham uses?

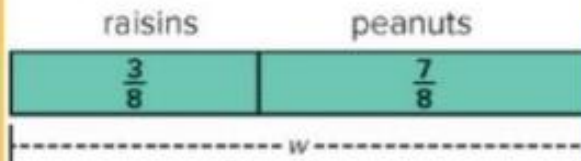


$$\frac{7}{8} - \frac{4}{8} = r$$

$$\frac{3}{8} = r$$

Graham uses  $\frac{3}{8}$  pound of raisins.

**Step 2:** What is the total weight of the trail mix?



$$\frac{3}{8} + \frac{7}{8} = w$$

$$\frac{10}{8} = w$$

The total weight of the trail mix is  $\frac{10}{8}$  pounds.

You can use strategies you know to solve problems involving addition and subtraction of fractions.

**Math is... Connections**

How is addition with fractions like addition with whole numbers?

**Work Together**

Heidi and her brother are painting a wall. Heidi painted  $\frac{4}{10}$  of the wall. Her brother painted  $\frac{3}{10}$  of the wall. How much of the wall still needs to be painted? Use equations and representations to show your work.

They have  $\frac{3}{10}$  left to paint.  $\frac{4}{10} + \frac{3}{10} = \frac{7}{10}$ ;  $\frac{10}{10} - \frac{7}{10} = \frac{3}{10}$ ;

## On My Own



What is the solution? Use representations and equations to solve.

1. To make a recipe, Clarice uses  $\frac{1}{4}$  cup of oil and  $\frac{2}{4}$  cup of water. How much liquid does she use?

$\frac{3}{4}$  cup

2. Jen ran  $\frac{9}{10}$  mile. Her sister ran  $\frac{12}{10}$  miles. How much farther did Jen's sister run?

$\frac{3}{10}$  mile

3. There was some water in a tank. Camryn drained  $\frac{5}{12}$  of the tank. Now there is  $\frac{2}{12}$  of the tank remaining. How much of the tank was filled with water before Camryn drained it?

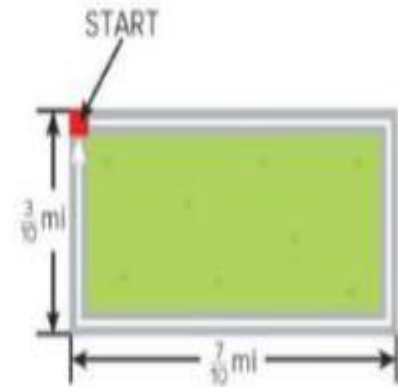
$\frac{7}{12}$  of the tank

4. To make a fruit salad, Sully uses  $\frac{5}{6}$  pound of oranges. He uses  $\frac{3}{6}$  pound less berries than oranges. What is the total weight of the oranges and berries?

$\frac{7}{6}$  pounds

5. Marcie planned to walk around the entire park, but her mother gave her a ride in the car for the last  $\frac{4}{10}$  mile. How far did she walk?

$\frac{16}{10}$  miles



7. A rug is  $9\frac{5}{12}$  feet long and  $6\frac{1}{12}$  feet wide. How many feet longer is the length than the width? Explain how you found your answer.

$3\frac{4}{12}$  feet; I counted on from

$6\frac{1}{12}$  to get to  $9\frac{5}{12}$ .  $6\frac{1}{12} + 3 = 9\frac{1}{12}$  and

$9\frac{1}{12} + \frac{4}{12} = 9\frac{5}{12}$ . So, the difference is  $3\frac{4}{12}$ .

8. **Error Analysis** Christy solved  $3\frac{2}{8} - 2\frac{7}{8} = ?$  and got a solution of  $1\frac{5}{8}$ . How can you help Christy understand her solution is not reasonable?

I know the answer must be less than 1 because  $3\frac{2}{8}$  is a little more than 3 and Christy is subtracting a number that is very close to 3. The correct solution is  $\frac{3}{8}$ .

9. Jon mixes  $1\frac{3}{4}$  cups of strawberries with some blueberries in a bowl. There are  $3\frac{1}{4}$  cups of fruit in the bowl. How many cups of blueberries are in the bowl? Explain how you found your answer.

$1\frac{2}{4}$  cups; I wrote the mixed numbers as equivalent fractions and then

subtracted;  $\frac{13}{4} - \frac{7}{4} = \frac{6}{4} = 1\frac{2}{4}$ .

10. Cooper writes the following steps to solve  $8\frac{9}{12} - 4\frac{4}{12} = ?$ . How can you explain the strategy Cooper used?

$$8\frac{9}{12} - 4 = 4\frac{9}{12}$$

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

Cooper started at  $8\frac{9}{12}$  and subtracted the whole-number part of  $4\frac{4}{12}$  first. Then he subtracted the fraction part of  $4\frac{4}{12}$ .

11. Tammy has  $3\frac{2}{3}$  more feet of fabric than Megan. Tammy has  $4\frac{1}{3}$  feet of fabric. How many feet of fabric does Megan have? Explain how you found your answer.  $\frac{2}{3}$  feet;

I wrote the mixed numbers using equivalent fractions and then subtracted;

$$\frac{13}{3} - \frac{11}{3} = \frac{2}{3}$$

12. **Extend Your Thinking** What are possible missing numbers?

Justify your answer.

$$3\frac{\boxed{7}}{8} - 2\frac{\boxed{1}}{8} = \boxed{1}\frac{6}{8}$$