



What is the quotient?

1

3. $91.4 \div 0.1 =$ _____

4. $55.8 \div 0.01 =$ _____

5. $50.5 \div 0.01 =$ _____

6. $33.2 \div 0.1 =$ _____

7. $16.4 \div 10 =$ _____

8. $444.8 \div 100 =$ _____

Estimate the quotient.



2

1. $4.42 \div 0.81 = x$

2. $36.8 \div 5.7 = d$

3. $19.73 \div 3.21 = c$

4. $5.4 \div 0.25 = m$

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Which is a reasonable calculated quotient for each expression?

5. $7.78 \div 0.84 = d$

- A. 92
- B. 9.2
- C. 0.92
- D. 1.92

6. $23.4 \div 3.2 = s$

- A. 7.3
- B. 73.3
- C. 70.3
- D. 780.3

7. $4.2 \div 0.96 = b$

- A. 43.75
- B. 33.75
- C. 4.3
- D. 0.43

8. $13.2 \div 7.4 = p$

- A. 1.7
- B. 10.7
- C. 17.2
- D. 170.3

What is the quotient?



3

3. $0.24 \div 8 =$ _____

4. $0.63 \div 9 =$ _____

5. $0.96 \div 6 =$ _____

6. $0.84 \div 4 =$ _____

7. $1.26 \div 7 =$ _____

8. $2.25 \div 5 =$ _____

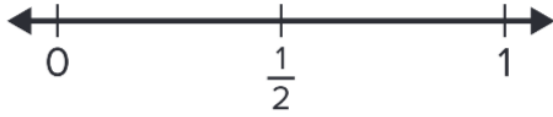
9. $3.18 \div 3 =$ _____

10. $4.52 \div 4 =$ _____

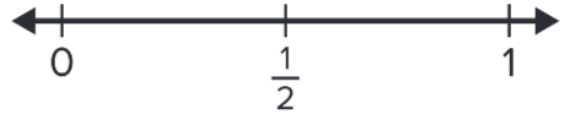


Will the sum be *greater than 1* or *less than 1*? Use the number line and explain how you can use benchmark numbers to justify.

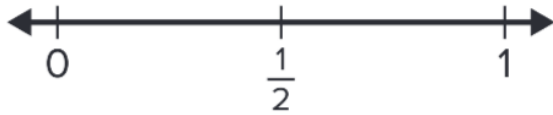
1. $\frac{3}{4} + \frac{2}{3}$



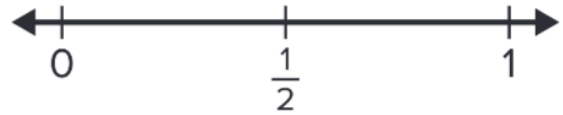
2. $\frac{3}{5} + \frac{1}{4}$



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



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



Without actually calculating, use what you know about fractions to estimate the sum.

1. $\frac{1}{7} + \frac{1}{9}$

Circle the best estimate.

- a. $\frac{1}{8}$
- b. $\frac{1}{4}$
- c. $\frac{1}{2}$
- d. 2
- e. 16

Explain your choice.



2. $\frac{5}{6} + \frac{13}{14}$

Circle the best estimate.

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

b. 1

c. 2

d. 18

e. 20

Explain your choice.



Complete the equation using addends with like denominators.

5

1. $\frac{1}{2} + \frac{3}{10} = \frac{\square}{\square} + \frac{\square}{\square}$



2. $\frac{2}{3} + \frac{5}{9} = \frac{\square}{\square} + \frac{\square}{\square}$



3. $\frac{5}{8} + \frac{1}{4} = \frac{\square}{\square} + \frac{\square}{\square}$



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



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Which multiple can you use as a like denominator to add the fractions? Choose all correct answers.

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

A. 6

B. 8

C. 12

D. 24

2. $\frac{1}{6} + \frac{3}{8}$

A. 12

B. 16

C. 24

D. 30

Complete the equation using addends with like denominators.

3. $\frac{3}{5} + \frac{1}{4} = \frac{\square}{\square} + \frac{\square}{\square}$

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



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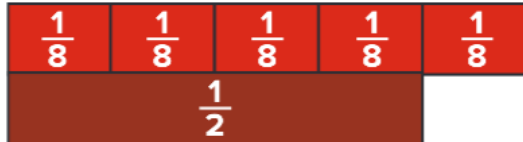


7

Complete the equation with equivalent fractions that have like denominators.

1. $\frac{5}{8} - \frac{1}{2} = \frac{\square}{\square} - \frac{\square}{\square}$

2. $\frac{2}{3} - \frac{3}{6} = \frac{\square}{\square} - \frac{\square}{\square}$



3. $\frac{3}{4} - \frac{2}{3} = \frac{\square}{\square} - \frac{\square}{\square}$

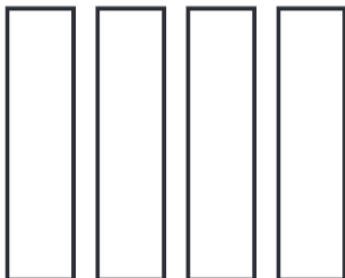
4. $\frac{5}{6} - \frac{1}{4} = \frac{\square}{\square} - \frac{\square}{\square}$



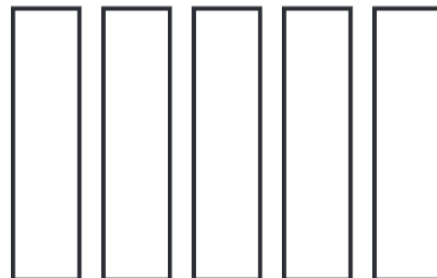
What is the product? Use a representation to solve.

8

1. $\frac{3}{5} \times 4 = \underline{\hspace{2cm}}$



2. $\frac{5}{6} \times 5 = \underline{\hspace{2cm}}$



3. $\frac{2}{5} \times 8 = \underline{\hspace{2cm}}$

4. $\frac{3}{8} \times 7 = \underline{\hspace{2cm}}$



9

Complete the equation.

$$1. \frac{1}{5} \times \frac{1}{5} = \frac{\square \times \square}{\square \times \square} = \frac{\square}{\square}$$

$$2. \frac{2}{3} \times \frac{7}{8} = \frac{\square \times \square}{\square \times \square} = \frac{\square}{\square}$$

$$3. \frac{2}{3} \times \frac{4}{9} = \underline{\hspace{2cm}}$$

$$4. \frac{3}{7} \times \frac{4}{5} = \underline{\hspace{2cm}}$$

9. Complete the equation.

$$\frac{1}{\square} \times \frac{1}{3} = \frac{1}{24}$$

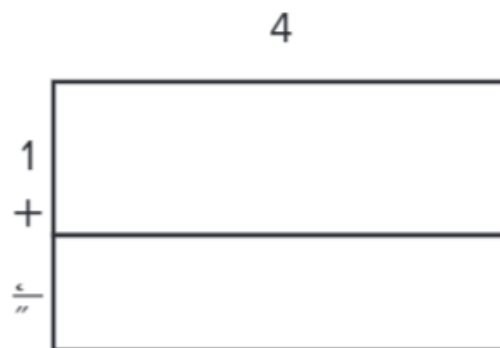
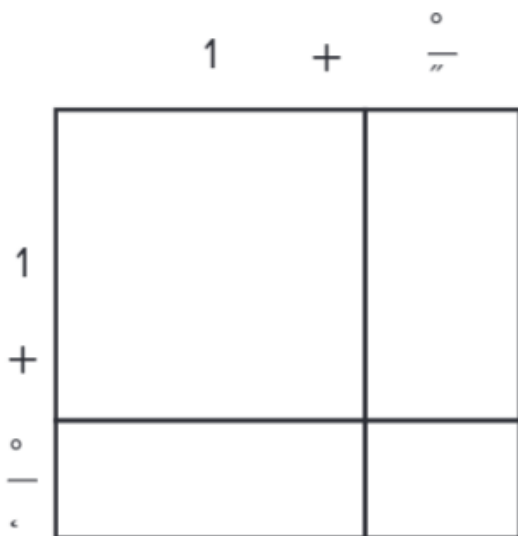


Complete the area model. What is the product?

10

$$1. 1\frac{1}{3} \times 1\frac{1}{2} = \underline{\hspace{2cm}}$$

$$2. 1\frac{3}{4} \times 4 = \underline{\hspace{2cm}}$$





What is the quotient? Use decimal grids to solve.

11

1. $3.5 \div 7 =$ _____

2. $4.53 \div 3 =$ _____

3. $2.04 \div 4 =$ _____

4. $2.8 \div 2 =$ _____

5. $3.9 \div 3 =$ _____

6. $6.9 \div 3 =$ _____



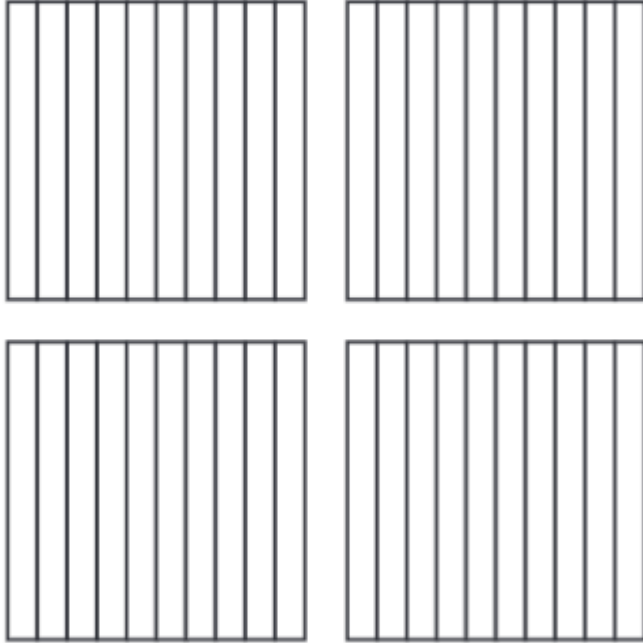
7. $0.72 \div 8 =$ _____

8. $2.4 \div 4 =$ _____

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5. Use the decimal grids to solve
 $2.4 \div 6 = d$. (Lesson 8-3)



$$2.4 \div 6 = \underline{\quad}$$



Rewrite the equation using multiplication by powers of 10. Then, use partial quotients to solve.

12

1. $10.8 \div 1.2 = \underline{\quad}$

2. $5.18 \div 0.74 = \underline{\quad}$

3. $27.6 \div 4.6 = \underline{\quad}$

4. $11.2 \div 1.6 = \underline{\quad}$





14. Which equivalent expression uses powers of 10 to help you solve $52.71 \div 0.21$? (Lesson 8-6)

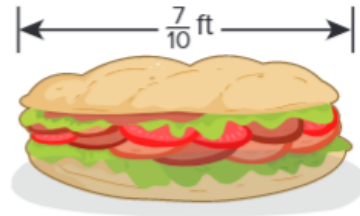
- A. $5,271 \div 21$
- B. $5,271 \div 0.21$
- C. $52.71 \div 21$
- D. $52.71 \div 2.1$



10. Eddie had $\frac{3}{4}$ quart of water for his soccer game. By half time, he drank $\frac{2}{5}$ quart of water. How much water does Eddie have left?

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11. Isabel bought this sandwich. She ate $\frac{5}{8}$ foot of the sandwich. How much of the sandwich is left?



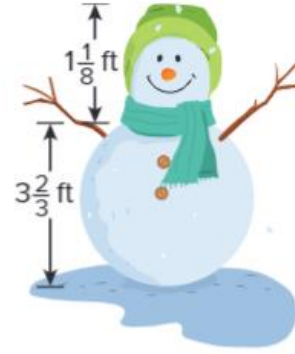
12. Alan is walking on a path that is $\frac{11}{12}$ mile long. He has walked $\frac{7}{9}$ mile. How much farther does he have to walk?

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10. Timothy rides his bike $1\frac{1}{2}$ miles to school. After school, he rides $2\frac{2}{5}$ miles to his piano lesson, then 2 miles back home. How many miles does Timothy ride in all?

11. Marcus builds the body of this snowman. He then builds the head. How tall is Marcus's snowman?



12. Solve the equation.

$$4\frac{7}{10} + 2\frac{3}{4} = ?$$

What do you notice about the sum of the two fractions?
How can you rewrite the sum?

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What is the difference? Choose the correct answer.

1. $3\frac{2}{3} - 1\frac{1}{5} = ?$

A. $2\frac{7}{15}$

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

C. $2\frac{1}{15}$

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

2. $6\frac{7}{8} - 5\frac{5}{6} = ?$

A. $1\frac{5}{24}$

B. $1\frac{1}{24}$

C. $1\frac{4}{24}$

D. $1\frac{2}{24}$

What is the difference?

3. $4\frac{3}{4} - 1\frac{1}{3} = \underline{\hspace{2cm}}$

4. $2\frac{3}{5} - 1\frac{1}{2} = \underline{\hspace{2cm}}$

5. $5\frac{5}{9} - 3\frac{1}{6} = \underline{\hspace{2cm}}$

6. $3\frac{7}{10} - 1\frac{3}{8} = \underline{\hspace{2cm}}$

7. $6\frac{1}{2} - 3\frac{1}{3} = \underline{\hspace{2cm}}$

8. $4\frac{5}{8} - 3\frac{1}{5} = \underline{\hspace{2cm}}$





What is the sum or difference? Choose the correct answer.

1. $5\frac{2}{5} - 3\frac{2}{3} = ?$

A. $2\frac{11}{15}$

B. $1\frac{1}{5}$

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

D. $1\frac{11}{15}$

2. $4\frac{5}{6} + 3\frac{3}{4} = ?$

A. $7\frac{8}{12}$

B. $7\frac{7}{12}$

C. $8\frac{7}{12}$

D. $8\frac{8}{12}$

What is the sum or difference?



3. $6\frac{1}{8} - 4\frac{1}{3} = \underline{\hspace{2cm}}$

4. $3\frac{3}{4} + 5\frac{2}{3} = \underline{\hspace{2cm}}$

5. $8\frac{1}{6} - 2\frac{2}{9} = \underline{\hspace{2cm}}$

6. $2\frac{7}{8} + 1\frac{1}{2} = \underline{\hspace{2cm}}$

7. $3\frac{1}{5} - 2\frac{3}{4} = \underline{\hspace{2cm}}$

8. $1\frac{7}{12} + 3\frac{5}{8} = \underline{\hspace{2cm}}$



What is the product? Use a representation to solve.

1. $\frac{1}{2} \times \frac{1}{2} = \underline{\hspace{2cm}}$



2. $\frac{5}{6} \times \frac{3}{5} = \underline{\hspace{2cm}}$



3. $\frac{5}{8} \times \frac{2}{3} = \underline{\hspace{2cm}}$

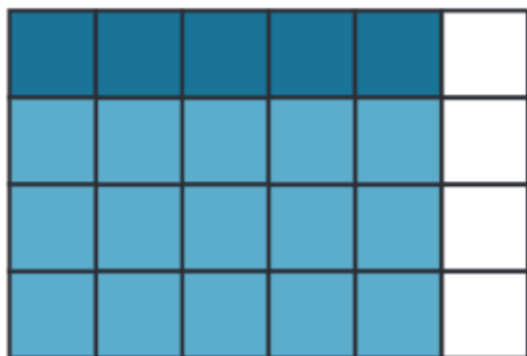
4. $\frac{3}{4} \times \frac{3}{5} = \underline{\hspace{2cm}}$

5. $\frac{4}{5} \times \frac{5}{6} = \underline{\hspace{2cm}}$

6. $\frac{7}{8} \times \frac{1}{3} = \underline{\hspace{2cm}}$



14. The area model represents what product? (Lesson 10-3)



- A. $\frac{1}{4} \times \frac{3}{5}$
- B. $\frac{1}{6} \times \frac{3}{4}$
- C. $\frac{1}{4} \times \frac{5}{6}$
- D. $\frac{4}{5} \times \frac{5}{6}$



5. What is the area of a square with side lengths of $\frac{1}{3}$ inch?
6. A piece of paper is $1\frac{1}{4}$ inches long and 2 inches wide. What is the area of the piece of paper?

7. **STEM Connection** A geologist is surveying land that is $\frac{3}{4}$ mile wide by $\frac{7}{8}$ mile long. What is the area of the land the geologist is surveying?



8. The top of a table measures $1\frac{3}{4}$ feet by 2 feet. What is the area of the tabletop?
9. A farmer plants crops in a section that is $\frac{4}{5}$ -mile long by $\frac{9}{10}$ -mile wide. What is the area of the section?



9. The weight of Natalie's backpack is shown. Her brother's backpack weighs $2\frac{1}{4}$ times that much. How much does Natalie's brother's backpack weigh?

 $6\frac{2}{3}$ lb

10. The street Michelle lives on is $1\frac{1}{2}$ miles long. The street Lucas lives on is $1\frac{2}{5}$ times as long as Michelle's street. How long is the street Lucas lives on?



11. Benson bought this much dog food last week. This week he bought $2\frac{1}{3}$ times as much as last week. How many pounds of dog food did Benson buy this week?



12. A rectangle has a length of $1\frac{1}{3}$ yards and a width of $5\frac{1}{4}$ yards. What is the area of the rectangle?

050-250



1. Which fraction will result in a product that is greater than $\frac{3}{4}$?
 $\frac{3}{4} \times$ _____
- A. $\frac{1}{3}$
B. $\frac{1}{2}$
C. $\frac{5}{8}$
D. $\frac{5}{4}$
2. Which fraction will result in a product that is less than $\frac{8}{7}$?
 $\frac{8}{7} \times$ _____
- A. $\frac{5}{7}$
B. $\frac{12}{6}$
C. $\frac{10}{7}$
D. $\frac{8}{6}$
3. Which expression has a product that is less than the first factor? Select all that apply.
- A. $42 \times \frac{1}{2}$
B. $35 \times \frac{2}{1}$
C. $78 \times \frac{1}{5}$
D. $26 \times \frac{4}{5}$
4. Which expression has a product that is greater than the second factor? Select all that apply.
- A. $\frac{3}{4} \times \frac{2}{1}$
B. $\frac{2}{1} \times 75$
C. $26 \times \frac{3}{2}$
D. $\frac{9}{10} \times 5$





Solve each problem. Then, explain your solution.

5. Darren has a cooler with 9 liters of lemonade. He pours 0.3 liter of lemonade into each glass. How many glasses of lemonade can Darren fill
6. Mr. Ramirez bought a watermelon that weighs 12 pounds for a picnic. He cuts it into pieces that each weigh 1.5 pounds. How many pieces of watermelon can Mr. Ramirez cut?
7. A grocery store got a delivery of 24 pounds of almonds. They package the almonds into containers with 0.75 pound of almonds in each. How many containers can they fill with almond ?
8. Melissa has \$30 to spend on apples from a local apple orchard. How many pounds of apples can Melissa buy?



10. A car drove 104 miles in 1.6 hours. If the speed of the car was the same for the entire trip, how fast did the car go? How do you know?



22

10. Oliver uses $\frac{1}{6}$ gallon of water for his outdoor plants. He uses $\frac{1}{4}$ gallon of water for his indoor plants. How many gallons of water does Oliver use on all of his plants?

11. Heather uses $\frac{2}{3}$ foot of yarn for her art project. She adds another $\frac{1}{12}$ foot to complete the project. How much yarn does Heather use in all?

12. **Error Analysis** Mia found the sum of $\frac{2}{9} + \frac{3}{4}$. How can you help Mia correct her mistake?



○	$\frac{2 \times 2}{2 \times 9} + \frac{3 \times 4}{4 \times 4} = \frac{4}{18} + \frac{12}{18} = \frac{16}{18}$
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What is the product? Use an area model to solve.

23

3. $1\frac{1}{4} \times 1\frac{1}{5} =$ _____

4. $\frac{3}{5} \times 4\frac{1}{2} =$ _____

5. $3\frac{1}{3} \times 1\frac{1}{2} =$ _____

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

050-2