

STUDY LINK
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Comparing Fractions



Circle the greater fraction for each pair.

1. $\frac{3}{8}$ or $\frac{3}{6}$

2. $\frac{2}{3}$ or $\frac{2}{9}$

3. $\frac{4}{7}$ or $\frac{5}{6}$

4. $\frac{19}{20}$ or $\frac{4}{8}$

5. $\frac{11}{21}$ or $\frac{9}{17}$

6. $\frac{4}{7}$ or $\frac{6}{11}$

7. Explain how you got your answer for Problem 5.

Write the decimal equivalent for each fraction.

8. $\frac{3}{4} =$ _____

9. $\frac{2}{3} =$ _____

10. $\frac{5}{8} =$ _____

11. $\frac{7}{10} =$ _____

12. $\frac{11}{20} =$ _____

13. $\frac{21}{25} =$ _____

14. Explain how you can do Problem 10 without using a calculator.

Use $>$, $<$, or $=$ to make each number sentence true.

15. $\frac{1}{2} + \frac{5}{8}$ _____ 1

16. $\frac{2}{3} + \frac{2}{6}$ _____ 1

17. $\frac{7}{9} + \frac{3}{5}$ _____ 1

18. 1 _____ $\frac{6}{10} + \frac{5}{20}$

19. 1 _____ $\frac{3}{8} + \frac{4}{9}$

20. 1 _____ $\frac{6}{7} + \frac{1}{8}$

21. Explain how you found the answer to Problem 20.

Practice

22. $675 \times 42 =$ _____

23. $28,350 \div 675 =$ _____

24. $67.5 - 0.42 =$ _____

25. $28,350 + 42 + 67.08 =$ _____

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Adding Mixed Numbers



Rename each mixed number in simplest form.

1. $3\frac{6}{5} = \underline{4\frac{1}{5}}$

2. $\frac{16}{8} = \underline{\hspace{2cm}}$

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

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

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

6. $5\frac{10}{6} = \underline{\hspace{2cm}}$

Add. Write each sum as a whole number or mixed number in simplest form.

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

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

9. $9\frac{1}{3} + 4\frac{2}{3} = \underline{\hspace{2cm}}$

10. $3\frac{5}{7} + 8\frac{6}{7} = \underline{\hspace{2cm}}$

11. $\frac{15}{8} + 3\frac{3}{8} = \underline{\hspace{2cm}}$

12. $4\frac{2}{9} + 5\frac{5}{9} = \underline{\hspace{2cm}}$

Add.

13.
$$\begin{array}{r} 2\frac{5}{8} \\ + 6\frac{3}{4} \\ \hline \end{array}$$

14.
$$\begin{array}{r} 7\frac{1}{2} \\ + 3\frac{2}{3} \\ \hline \end{array}$$

15.
$$\begin{array}{r} 4\frac{6}{9} \\ + 3\frac{7}{12} \\ \hline \end{array}$$

16.
$$\begin{array}{r} 5\frac{3}{4} \\ + 2\frac{4}{5} \\ \hline \end{array}$$

Practice

17. $3,540 \div 6 = \underline{\hspace{2cm}}$

18. $1,770 \div 3 = \underline{\hspace{2cm}}$

19. $7,080 / 12 = \underline{\hspace{2cm}}$

20. $(590 * 5) \div 2 = \underline{\hspace{2cm}}$

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Subtracting Mixed Numbers



Fill in the missing numbers.

$$1. \quad 3\frac{3}{8} = 2\frac{\square}{8}$$

$$2. \quad 4\frac{5}{6} = \square\frac{11}{6}$$

$$3. \quad 2\frac{1}{9} = 1\frac{\square}{9}$$

$$4. \quad 6\frac{3}{7} = \square\frac{10}{7}$$

$$5. \quad 4\frac{3}{5} = 3\frac{\square}{5}$$

$$6. \quad 7\frac{2}{3} = \square\frac{\square}{3}$$

Subtract. Write your answers in simplest form.

$$7. \quad \begin{array}{r} 5\frac{3}{4} \\ - 3\frac{1}{4} \\ \hline \end{array}$$

$$8. \quad \begin{array}{r} 6\frac{2}{3} \\ - 4\frac{1}{3} \\ \hline \end{array}$$

$$9. \quad \begin{array}{r} 5\frac{4}{5} \\ - 3\frac{3}{5} \\ \hline \end{array}$$

$$10. \quad 4 - \frac{3}{8} = \underline{\hspace{2cm}}$$

$$11. \quad 6 - \frac{5}{9} = \underline{\hspace{2cm}}$$

$$12. \quad 5 - 2\frac{3}{10} = \underline{\hspace{2cm}}$$

$$13. \quad 7 - 4\frac{3}{4} = \underline{\hspace{2cm}}$$

$$14. \quad 3\frac{2}{5} - 1\frac{3}{5} = \underline{\hspace{2cm}}$$

$$15. \quad 4\frac{3}{8} - 3\frac{7}{8} = \underline{\hspace{2cm}}$$

Practice

$$16. \quad 654 * 205 = \underline{\hspace{2cm}}$$

$$17. \quad 654 * 502 = \underline{\hspace{2cm}}$$

$$18. \quad 654 * 250 = \underline{\hspace{2cm}}$$

$$19. \quad 654 * 520 = \underline{\hspace{2cm}}$$

Name _____

Date #

Time _____

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More Fraction Problems



1. Circle all the fractions below that are greater than
- $\frac{3}{4}$
- .

$$\frac{4}{5} \quad \frac{13}{20} \quad \frac{1}{2} \quad \frac{18}{25} \quad \frac{9}{12} \quad \frac{155}{200} \quad \frac{7}{11}$$

Rewrite each expression by renaming the fractions with a common denominator. Then decide whether the sum or difference is greater than $\frac{1}{2}$, less than $\frac{1}{2}$, or equal to $\frac{1}{2}$. Circle your answer.

2. $\frac{1}{10} + \frac{2}{7}$ _____ $> \frac{1}{2}$ $< \frac{1}{2}$ $= \frac{1}{2}$

3. $\frac{5}{6} - \frac{1}{4}$ _____ $> \frac{1}{2}$ $< \frac{1}{2}$ $= \frac{1}{2}$

4. $\frac{18}{20} - \frac{2}{5}$ _____ $> \frac{1}{2}$ $< \frac{1}{2}$ $= \frac{1}{2}$

5. $\frac{3}{4} - \frac{1}{3}$ _____ $> \frac{1}{2}$ $< \frac{1}{2}$ $= \frac{1}{2}$

Fraction Puzzle

6. Select and place three different numbers so the sum is as large as possible.

Procedure: Select three different numbers from this list: 1, 2, 3, 4, 5, 6.

◆ Write the same number in each square.

◆ Write a different number in the circle.

◆ Write a third number in the hexagon.

◆ Add the two fractions.

$$\frac{\square}{\bigcirc} + \frac{\hexagon}{\square} = \underline{\hspace{2cm}}$$

Example: $\frac{\boxed{2}}{\bigcirc 4} + \frac{\hexagon 3}{\boxed{2}} = \frac{8}{4} = 2$

Practice

7. $3 - 2.564 =$ _____

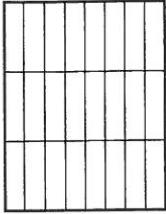
8. $3 * 2.564 =$ _____

9. $16 - 5.438 =$ _____

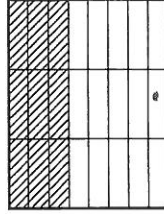
10. $3,049 / 15 =$ _____

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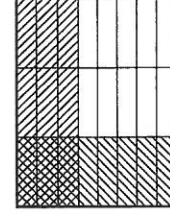
Fractions of a Fraction


Example:


The whole rectangle represents ONE.



Shade $\frac{3}{8}$ of the interior.



Shade $\frac{1}{3}$ of the interior in a different way.

The double shading shows that $\frac{1}{3}$ of $\frac{3}{8}$ is $\frac{3}{24}$, or $\frac{1}{8}$.

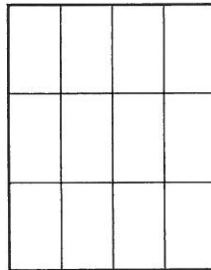
In each of the following problems, the whole rectangle represents ONE.

1. Shade $\frac{3}{4}$ of the interior.

Shade $\frac{1}{3}$ of the interior in a different way.

The double shading shows that

$\frac{1}{3}$ of $\frac{3}{4}$ is _____.

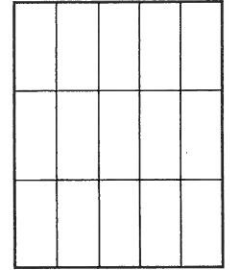


2. Shade $\frac{3}{5}$ of the interior.

Shade $\frac{2}{3}$ of the interior in a different way.

The double shading shows that

$\frac{2}{3}$ of $\frac{3}{5}$ is _____.

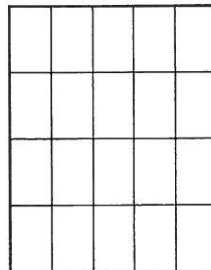


3. Shade $\frac{4}{5}$.

Shade $\frac{3}{4}$ of the interior in a different way.

The double shading shows that

$\frac{3}{4}$ of $\frac{4}{5}$ is _____.

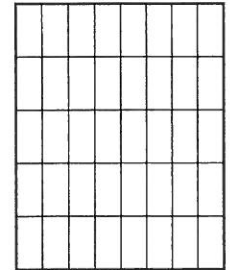


4. Shade $\frac{5}{8}$.

Shade $\frac{3}{5}$ of the interior in a different way.

The double shading shows that

$\frac{3}{5}$ of $\frac{5}{8}$ is _____.



5. Nina and Phillip cut Mr. Ferguson's lawn. Nina worked alone on her half, but Phillip shared his half equally with his friends, Ezra and Benjamin. What fraction of the earnings should each person get?

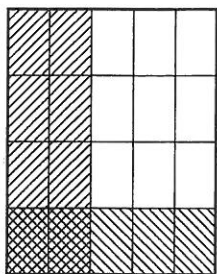
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Multiplying Fractions

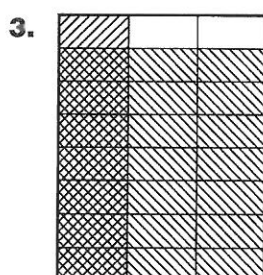
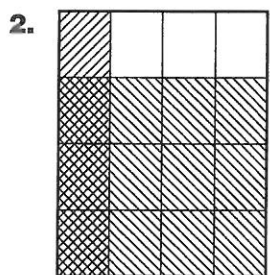
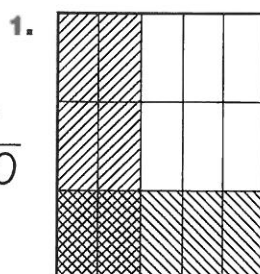


Write a number model for each area model.

Example:



$$\frac{1}{4} * \frac{2}{5} = \frac{2}{20}, \text{ or } \frac{1}{10}$$



Reminder: $\frac{a}{b} * \frac{c}{d} = \frac{a * c}{b * d}$

Multiply.

4. $\frac{3}{7} * \frac{2}{10} =$ _____

5. $\frac{5}{6} * \frac{2}{3} =$ _____

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

7. $\frac{4}{5} * \frac{3}{5} =$ _____

8. $\frac{2}{3} * \frac{3}{8} =$ _____

9. $\frac{1}{7} * \frac{5}{9} =$ _____

10. Matt is making cookies for the school fund-raiser. The recipe calls for $\frac{2}{3}$ cup of chocolate chips. He decides to triple the recipe. How many cups of chocolate chips does he need? _____ cups

11. The total number of goals scored by both teams in the field-hockey game was 15. Julie's team scored $\frac{3}{5}$ of the goals. Julie scored $\frac{1}{3}$ of her team's goals. How many goals did Julie's team score? _____ goals

How many goals did Julie score? _____ goals

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Multiplying Fractions and Whole Numbers


Use the fraction multiplication algorithm to calculate the following products.



1. $\frac{5}{3} * 9 =$ _____

2. $\frac{3}{8} * 12 =$ _____

3. $\frac{1}{8} * 5 =$ _____

4. $20 * \frac{3}{4} =$ _____

5. $\frac{5}{6} * 14 =$ _____

6. $27 * \frac{2}{9} =$ _____

7. Use the given rule to complete the table.

Rule
$\Delta = \square * 4$

in (\square)	out (Δ)
$\frac{2}{3}$	
$\frac{4}{5}$	
$\frac{8}{9}$	
$\frac{5}{4}$	
$\frac{7}{3}$	

8. What is the rule for the table below?

Rule

in (\square)	out (Δ)
2	$\frac{1}{2}$
3	$\frac{3}{4}$
$\frac{5}{6}$	$\frac{5}{24}$
$\frac{2}{3}$	$\frac{1}{6}$

9. Make and complete your own "What's My Rule?" table on the back of this page.

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Multiplying Fractions and Mixed Numbers


1. Multiply.

a. $5\frac{3}{4} * \frac{2}{6} =$ _____

b. $\frac{5}{8} * \frac{2}{5} =$ _____

c. $4\frac{1}{4} * \frac{5}{6} =$ _____

d. $2\frac{1}{3} * 3\frac{1}{8} =$ _____

e. $3\frac{1}{12} * 1\frac{3}{5} =$ _____

f. $2\frac{4}{5} * 3\frac{2}{8} =$ _____

2. Find the area of each figure below.

Area of a Rectangle

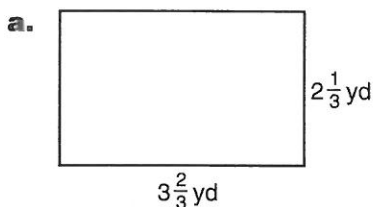
$$A = b * h$$

Area of a Triangle

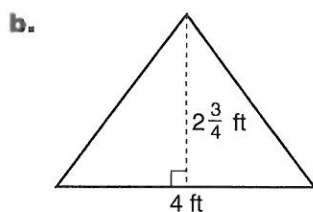
$$A = \frac{1}{2} * b * h$$

Area of a Parallelogram

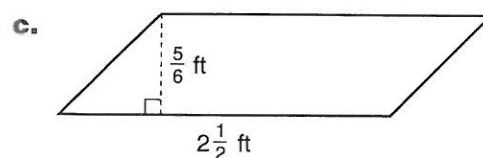
$$A = b * h$$



Area = _____ yd²



Area = _____ ft²



Area = _____ ft²

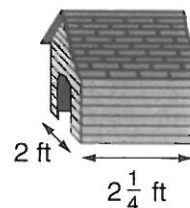
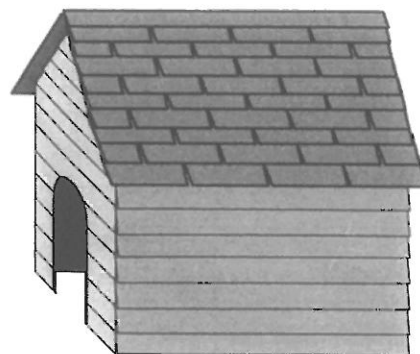
3. The dimensions of a large doghouse are $2\frac{1}{2}$ times the dimensions of a small doghouse.

a. If the width of the small doghouse is 2 feet, what is the width of the large doghouse?

_____ feet

b. If the length of the small doghouse is $2\frac{1}{4}$ feet, what is the length of the large doghouse?

_____ feet



Name _____

Date # _____

Time _____

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8•9**Fractions, Decimals, and Percents**

1. Complete the table so each number is shown as a fraction, decimal, and percent.

Fraction	Decimal	Percent
		45%
	0.3	
$\frac{2}{10}$		
	0.15	

2. Use your percent sense to estimate the discount for each item. Then calculate the discount for each item. (If necessary, round to the nearest cent.)

Item	List Price	Percent of Discount	Estimated Discount	Calculated Discount
Saguaro cactus with arms	\$400.00	25%		
Life-size wax figure of yourself	\$10,000.00	16%		
Manhole cover	\$78.35	10%		
Live scorpion	\$14.98	5%		
10,000 honeybees	\$29.00	30%		
Dinner for one on the Eiffel Tower	\$88.00	6%		
Magician's box for sawing a person in half	\$4,500.00	18%		
Fire hydrant	\$1,100.00	35%		

Source: *Everything Has Its Price*

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Unit Fractions



Finding the worth of the unit fraction will help you solve each problem below.

1. If $\frac{4}{5}$ of a number is 16, what is $\frac{1}{5}$ of the number? _____

What is the number? _____

2. Our football team won $\frac{3}{4}$ of the games that it played. It won 12 games. How many games did it play? _____

(unit)

3. When a balloon had traveled 800 miles, it had completed $\frac{2}{3}$ of its journey. What was the total length of its trip? _____

(unit)

4. Grandpa baked cookies. Twenty cookies were oatmeal raisin. The oatmeal raisin cookies represent $\frac{5}{8}$ of all the cookies. How many cookies did Grandpa bake? _____

(unit)

5. Tiana jogged $\frac{6}{8}$ of the way to school in 12 minutes. If she continues at the same speed, how long will her entire jog to school take? _____

(unit)

6. After 35 minutes, Hayden had completed $\frac{7}{10}$ of his math test. If he has a total of 55 minutes to complete the test, do you think he will finish in time? _____

Explain: _____

7. Complete the table using the given rule. 8. Find the rule. Then complete the table.

Rule
out = 60% of in

in	out
100	
60	
	42
110	
	72
35	

Rule
out = _____ of in

in	out
24	9
72	27
56	21
80	30
	15
32	

Name _____

Date _____

Time _____

STUDY LINK
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Fraction Review



Write three equivalent fractions for each fraction.

1. $\frac{7}{8}$ _____

2. $\frac{3}{4}$ _____

3. $\frac{6}{12}$ _____

4. $\frac{2}{3}$ _____

Circle the fraction that is closer to $\frac{1}{2}$.

5. $\frac{3}{8}$ or $\frac{4}{5}$

6. $\frac{4}{7}$ or $\frac{5}{9}$

7. $\frac{7}{8}$ or $\frac{7}{9}$

8. $\frac{4}{10}$ or $\frac{7}{12}$

9. Explain how you found your answer for Problem 8.

Solve. Write your answers in simplest form.

10. _____ = $\frac{5}{6} + \frac{3}{4}$

11. $\frac{7}{9} - \frac{1}{6} =$ _____

12. $8 - \frac{2}{3} =$ _____

13. $\frac{7}{8} - \frac{1}{6} =$ _____

14. $\frac{3}{4}$ of $\frac{2}{5}$ is _____

15. $4 * \frac{5}{6} =$ _____

Practice

16. $64,072 - 15,978 =$ _____

17. $2,297 \div 45 \rightarrow$ _____

18. $1,674 - 1,204 =$ _____

19. $326 + 684 + 934 =$ _____

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Mixed-Number Review



Fill in the missing numbers.

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

2. $\frac{\square}{5} = 3\frac{7}{5}$

Solve. Write your answers in simplest form.

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

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

5. $7\frac{4}{9} - 5\frac{8}{9} = \underline{\hspace{2cm}}$

6. $3\frac{2}{7} + 1\frac{4}{5} = \underline{\hspace{2cm}}$

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

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

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

10. $4\frac{2}{3} * \frac{6}{7} = \underline{\hspace{2cm}}$

11. $\underline{\hspace{2cm}} = 2\frac{1}{2} * 1\frac{4}{5}$

12. $\frac{3}{10} * 8\frac{1}{3} = \underline{\hspace{2cm}}$

Common Denominator Division

Here is one way to divide fractions and to divide whole or mixed numbers by fractions.

Step 1 Rename the numbers using a common denominator.

Step 2 Divide the numerators.

Solve. Show your work.

13. $5 \div \frac{2}{3} = \underline{\hspace{2cm}}$

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

15. $4\frac{1}{8} \div \frac{3}{4} = \underline{\hspace{2cm}}$

16. $6\frac{2}{3} \div \frac{7}{9} = \underline{\hspace{2cm}}$