Name: _____ Date: _____

CHAPTER 3

Fractions and Mixed Numbers

Worksheet 1 Adding Unlike Fractions

Circle the unlike fraction in each set.

1. $\frac{3}{10}$, $\frac{2}{5}$, $\frac{7}{10}$

2. $\frac{2}{9}$, $\frac{5}{9}$, $\frac{1}{3}$

Write a like fraction and an unlike fraction for each fraction.

		Like Fraction	Unlike Fraction
3.	$\frac{1}{5}$		
4.	$\frac{3}{10}$		
5.	$\frac{4}{7}$		
6.	$\frac{5}{9}$		

Identify the like fractions. Put them into sets.

7.

$\frac{1}{3}$ $\frac{5}{9}$ $\frac{3}{8}$ $\frac{2}{7}$ $\frac{4}{5}$ $\frac{8}{9}$ $\frac{3}{7}$ $\frac{3}{4}$ $\frac{1}{2}$ $\frac{5}{6}$ $\frac{1}{9}$ $\frac{7}{8}$

Set 1 Set 2 Set 3

Name: _____ **Date:** _____

List the first six multiples of each number.

Example

Multiples of 5: 5, 10, 15, 20, 25, 30

8. Multiples of 3: _____

9. Multiples of 4: _____

Each rectangle on the right is divided into smaller equal parts by the dotted lines. Find the equivalent fractions for the shaded parts of the rectangle.

Example

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

$\frac{1}{2}$ and $\frac{2}{4}$ are **equivalent fractions**. They have the same value.

10.

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

11.

$\frac{4}{5} = \frac{\square}{\square}$

Name: _____ **Date:** _____

List the equivalent fractions of the first fraction. Stop when you get a fraction that has the same denominator as the second fraction. Then find the least common denominator of both fractions.

Example

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

$\frac{1}{6}$

The **least common multiple** of 2 and 6 is 6. The **least common denominator** of $\frac{1}{2}$ and $\frac{1}{6}$ is 6.

The least common denominator of $\frac{1}{2}$ and $\frac{1}{6}$ is 6.

12. $\frac{1}{3} =$ _____

$\frac{2}{9}$

The least common denominator of $\frac{1}{3}$ and $\frac{2}{9}$ is _____.

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

$\frac{1}{16}$

The least common denominator of $\frac{3}{4}$ and $\frac{1}{16}$ is _____.

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

$\frac{2}{15}$

The least common denominator of $\frac{2}{3}$ and $\frac{2}{15}$ is _____.

Name: _____ **Date:** _____

List the equivalent fractions of each fraction. Stop when you get equivalent fractions with the same denominator. Then find the least common denominator of both fractions.

Example

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

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

The least common denominator of $\frac{1}{2}$ and $\frac{1}{3}$ is 6.

15. $\frac{1}{3} =$ _____

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

The least common denominator of $\frac{1}{3}$ and $\frac{3}{4}$ is _____.

16. $\frac{1}{4} =$ _____

$\frac{1}{6} =$ _____

The least common denominator of $\frac{1}{4}$ and $\frac{1}{6}$ is _____.

17. $\frac{5}{6} =$ _____

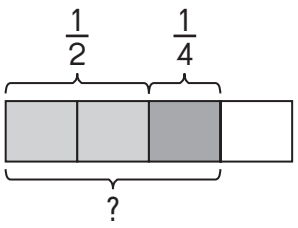
$\frac{7}{8} =$ _____

The least common denominator of $\frac{5}{6}$ and $\frac{7}{8}$ is _____.

Name: _____ **Date:** _____

Shade and label each model to show the fractions. Then complete the addition sentence.

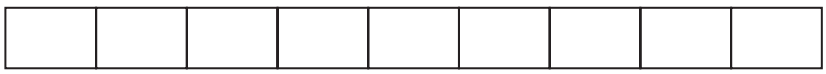
Example



To add unlike fractions, change them to fractions with the same denominator. The least common denominator of $\frac{1}{2}$ and $\frac{1}{4}$ is 4.

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

18.

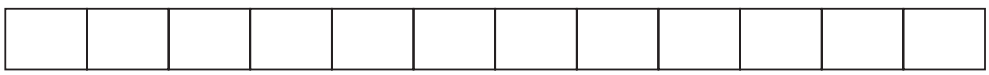


$\frac{1}{3} + \frac{2}{9} = \square + \square = \square$

19.

$\frac{2}{5} + \frac{3}{10} = \square + \square = \square$

20.



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

Name: _____ **Date:** _____

Add. Express each sum in simplest form.

Example

$\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \boxed{\frac{1}{8}}$

$= \boxed{\frac{5}{8}}$

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

$= \square$

22. $\frac{1}{10} + \frac{1}{5}$

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

24. $\frac{3}{4} + \frac{1}{8}$

25. $\frac{1}{9} + \frac{2}{3}$

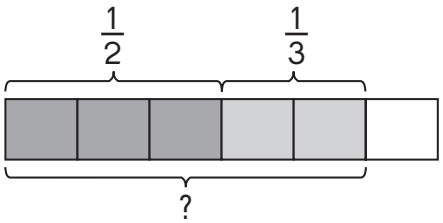
26. $\frac{1}{4} + \frac{1}{12}$

27. $\frac{2}{3} + \frac{1}{12}$

Name: _____ Date: _____

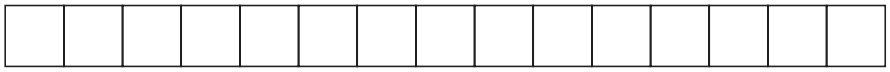
Shade and label each model to show the fractions. Then complete the addition sentence.

Example



$\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$

28.



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

29.

$\frac{3}{7} + \frac{1}{2} = \square + \square = \square$

30.

$\frac{4}{9} + \frac{1}{2} = \square + \square = \square$

Name: _____ **Date:** _____

Add.

Example

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

$= \boxed{\frac{7}{12}}$

31. $\frac{1}{5} + \frac{1}{2} = \frac{2}{10} + \square$

$= \square$

32. $\frac{1}{4} + \frac{1}{9}$

33. $\frac{1}{7} + \frac{1}{8}$

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

35. $\frac{2}{5} + \frac{3}{8}$

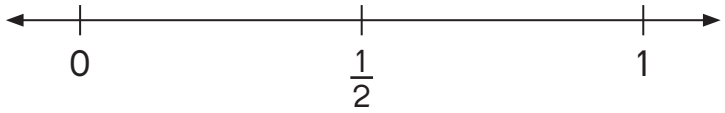
36. $\frac{2}{9} + \frac{2}{7}$

37. $\frac{3}{11} + \frac{2}{3}$

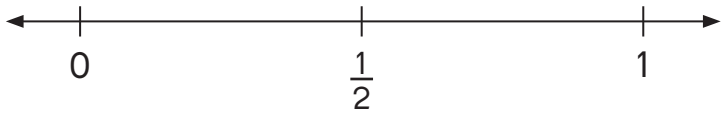
Name: _____ Date: _____

Mark the fractions on the number line.

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

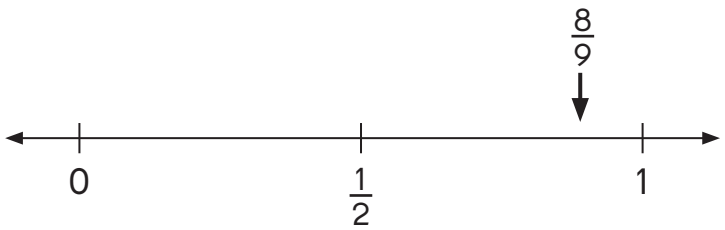


39. $\frac{3}{4}$



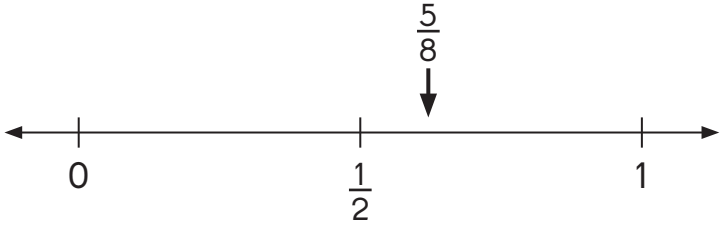
Look at the number line. Round the fraction to 0, $\frac{1}{2}$, or 1.

Example



$\frac{8}{9}$ → 1

40.



$\frac{5}{8}$ → _____

Name: _____ **Date:** _____

Use benchmarks to estimate each sum.

Example

$\frac{1}{4} \downarrow + \frac{2}{5} \downarrow$

$0 + \frac{1}{2} = \frac{1}{2}$

Common **benchmarks** for estimating fractions are 0, $\frac{1}{2}$, and 1.

41. $\frac{3}{4} \downarrow + \frac{7}{8} \downarrow$

$\_\_\_ + \_\_\_ = \_\_\_$

42. $\frac{11}{12} \downarrow + \frac{7}{12} \downarrow$

$\_\_\_ + \_\_\_ = \_\_\_$

43. $\frac{5}{9} \downarrow + \frac{5}{12} \downarrow + \frac{10}{11} \downarrow$

$\_\_\_ + \_\_\_ + \_\_\_ = \_\_\_$

44. $\frac{6}{9} + \frac{11}{12}$

45. $\frac{3}{8} + \frac{5}{9}$

46. $\frac{1}{2} + \frac{4}{5} + \frac{8}{9}$

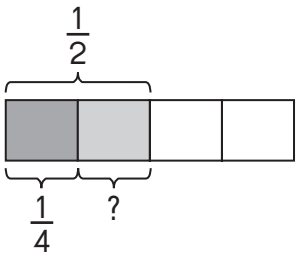
47. $\frac{5}{6} + \frac{6}{7} + \frac{7}{8}$

Name: _____ Date: _____

Worksheet 2 Subtracting Unlike Fractions

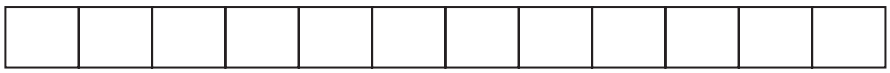
Shade and label each model to show the fractions. Then complete the subtraction sentence.

Example



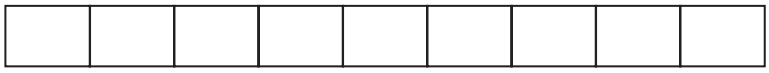
$\frac{1}{2} - \frac{1}{4} = \frac{2}{4} - \frac{1}{4} = \frac{1}{4}$

1.



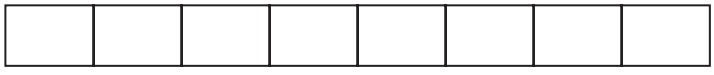
$\frac{2}{3} - \frac{5}{12} = \square - \square = \square = \square$

2.



$\frac{7}{9} - \frac{1}{3} = \square - \square = \square$

3.



$\frac{5}{8} - \frac{1}{4} = \square - \square = \square$

Name: _____ **Date:** _____

Subtract. Express each difference in simplest form.

Example

$\frac{1}{3} - \frac{1}{9} = \frac{3}{9} - \boxed{\frac{1}{9}}$

$= \boxed{\frac{2}{9}}$

4. $\frac{1}{2} - \frac{1}{8} = \frac{4}{8} - \square$

$= \square$

5. $\frac{1}{5} - \frac{1}{10}$

6. $\frac{5}{6} - \frac{2}{3}$

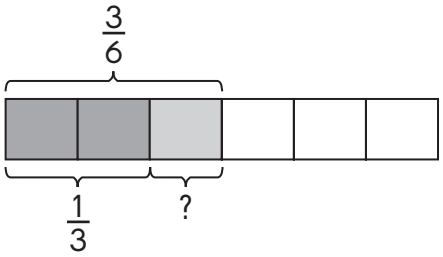
7. $\frac{7}{8} - \frac{1}{4}$

8. $\frac{3}{4} - \frac{5}{12}$

Name: _____ Date: _____

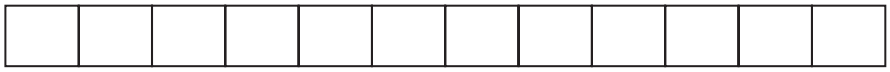
Shade and label each model to show the fractions. Then complete the subtraction sentence.

Example



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

9.

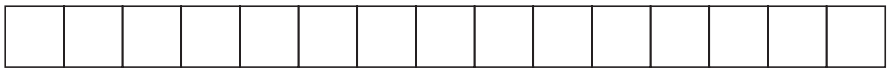


$\frac{1}{3} - \frac{1}{4} = \square - \square = \square$

10.

$\frac{5}{7} - \frac{1}{2} = \square - \square = \square$

11.



$\frac{3}{5} - \frac{1}{3} = \square - \square = \square$

Name: _____ **Date:** _____

Subtract.

Example

$\frac{1}{2} - \frac{1}{5} = \frac{5}{10} - \boxed{\frac{2}{10}}$

$= \boxed{\frac{3}{10}}$

12. $\frac{1}{3} - \frac{1}{5} = \frac{5}{15} - \boxed{}$

$= \boxed{}$

13. $\frac{1}{5} - \frac{1}{6}$

14. $\frac{1}{7} - \frac{1}{8}$

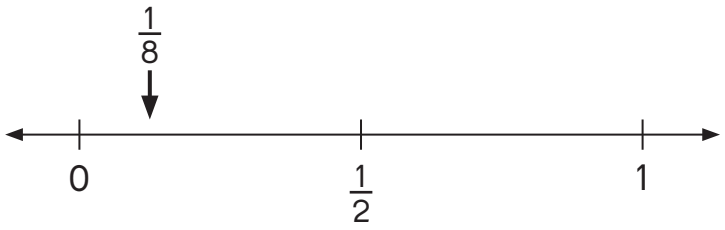
15. $\frac{4}{5} - \frac{1}{4}$

16. $\frac{5}{8} - \frac{3}{5}$

Name: _____ Date: _____

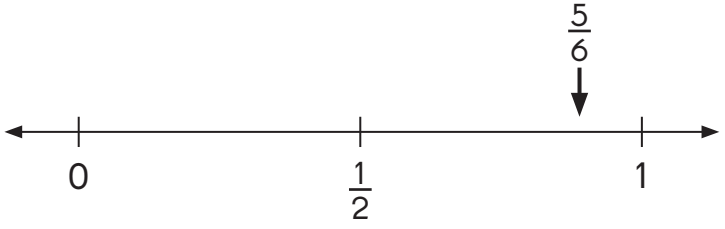
Look at the number line. Round the fraction to 0, $\frac{1}{2}$, or 1.

Example



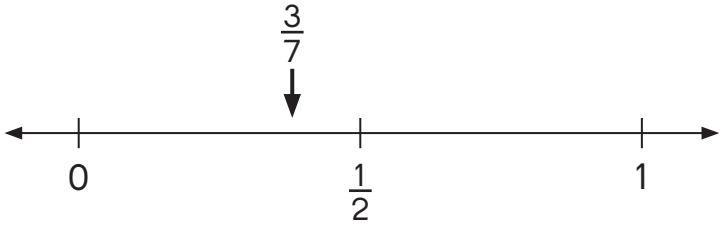
$\frac{1}{8}$ → *0*

17.



$\frac{5}{6}$ → _____

18.



$\frac{3}{7}$ → _____

Name: _____ **Date:** _____

Use benchmarks to estimate each difference.

Example

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

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

Common **benchmarks** for estimating fractions are 0, $\frac{1}{2}$, and 1.

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

_____ – _____ = _____

20. $\frac{11}{12} - \frac{1}{2}$

_____ – _____ = _____

21. $\frac{5}{6} - \frac{8}{9}$

_____ – _____ = _____

22. $\frac{10}{11} - \frac{5}{12}$

_____ – _____ = _____

23. $\frac{4}{5} - \frac{11}{22}$

24. $\frac{7}{8} - \frac{1}{9}$

25. $\frac{1}{2} - \frac{6}{11}$

26. $\frac{8}{9} - \frac{3}{7}$

Name: _____ Date: _____

Worksheet 3 Fractions, Mixed Numbers, and Division Expressions

Write each improper fraction as a mixed number.

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

$= 1 + \square$

$= \square$

3 is the denominator. I need a 3 for a numerator.
$4 = 3 + 1$

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

$= 1 + \square$

$= \square$

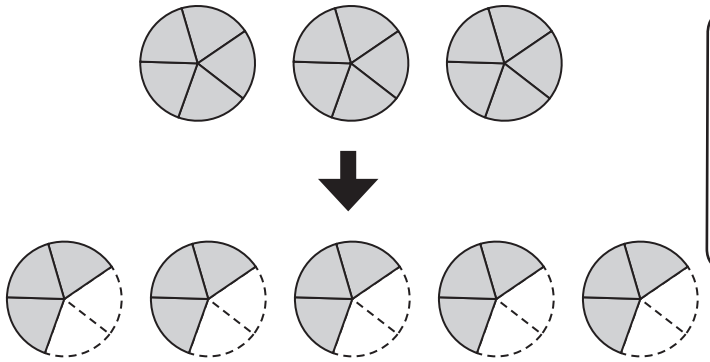
3. $\frac{7}{3}$

4. $\frac{9}{5}$

Name: _____ **Date:** _____

Look at the diagram. Complete.

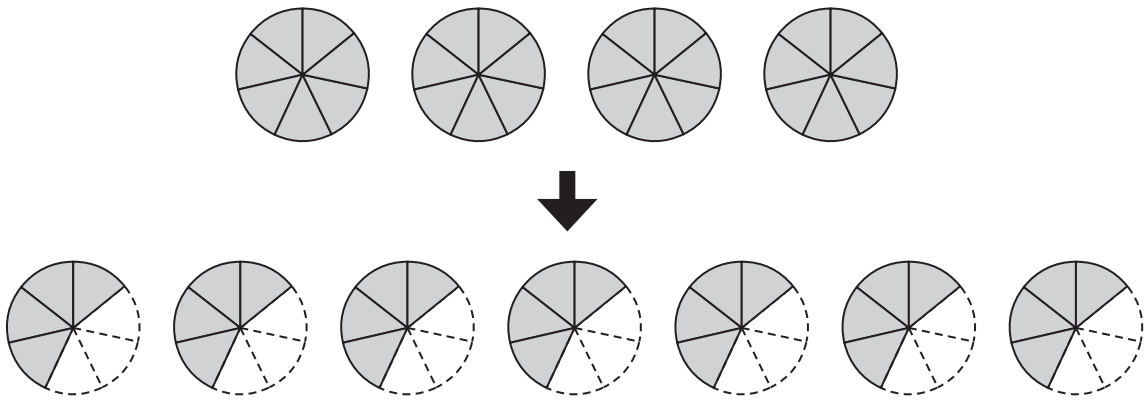
Example



Divide 3 circles into 5 equal parts each. What fraction of a whole is each part? How many parts are in each group?

3 ÷ 5 = $\frac{3}{5}$

5.

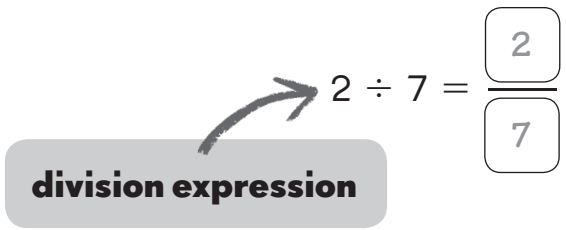


_____ ÷ _____ = $\frac{\square}{\square}$

Name: _____ Date: _____

Write each division expression as a fraction.

Example



6. $4 \div 5 = \frac{\square}{\square}$

7. $5 \div 9 = \frac{\square}{\square}$

8. $7 \div 11 = \frac{\square}{\square}$

9. $5 \div 8 = \frac{\square}{\square}$

Write each fraction as a division expression.

Example

$\frac{9}{10} =$ *9* ÷ *10*

10. $\frac{3}{8} =$ _____ ÷ _____

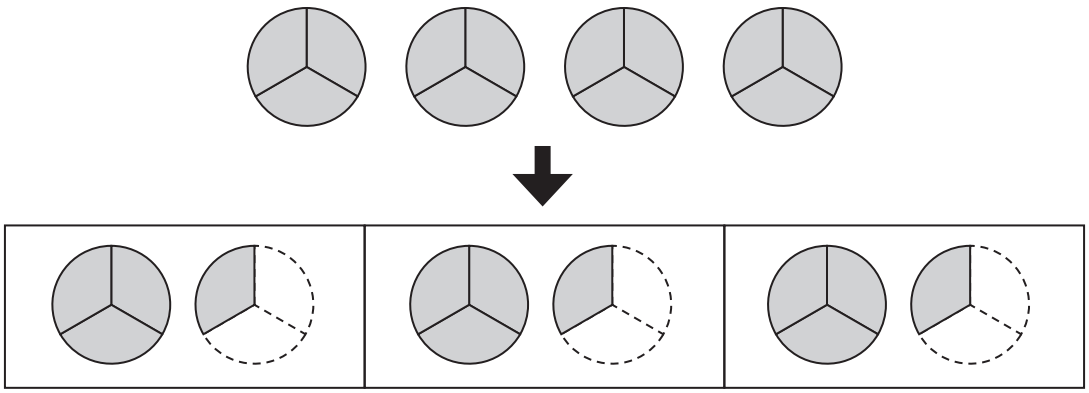
11. $\frac{5}{6} =$ _____ ÷ _____

12. $\frac{4}{11} =$ _____ ÷ _____

Name: _____ **Date:** _____

Look at the diagram. Complete.

13.



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

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

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

$$= 1\frac{\square}{\square}$$

Name: _____ Date: _____

Divide. Express your answer as a mixed number.

14. $8 \div 5 = \frac{\square}{\square}$

$= \frac{\square}{\square} + \frac{\square}{\square}$

$= \square + \frac{\square}{\square}$

$= \square \frac{\square}{\square}$

15. $7 \div 2 = \frac{\square}{\square}$

$= \frac{\square}{\square} + \frac{\square}{\square}$

$= \square + \frac{\square}{\square}$

$= \square \frac{\square}{\square}$

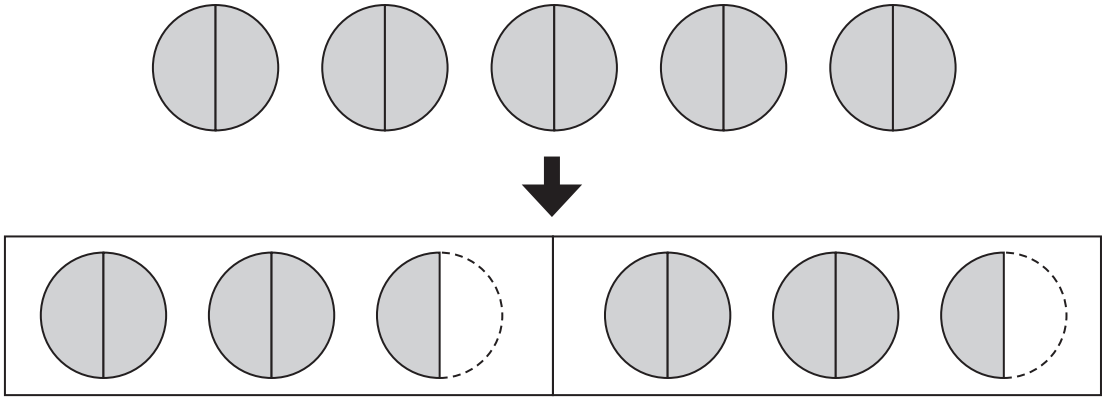
16. $10 \div 3$

17. $17 \div 6$

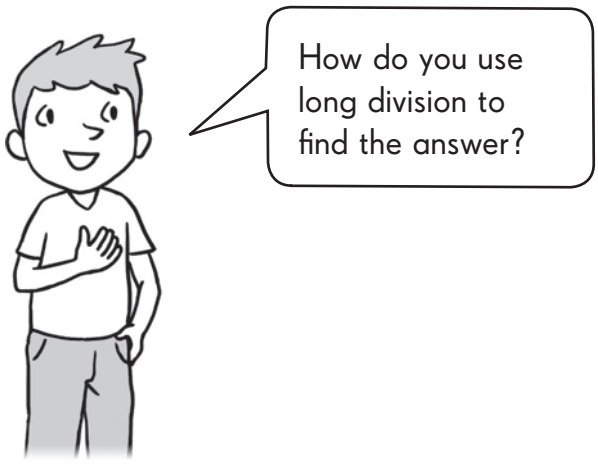
Name: _____ **Date:** _____

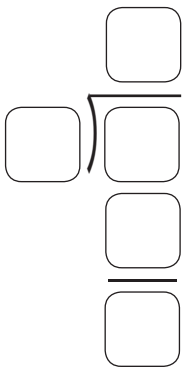
Look at the diagram. Complete.

18.



_____ ÷ _____ = $\square\frac{\square}{\square}$





Divide. Express your answer as a mixed number in simplest form.

19. 9 ÷ 2

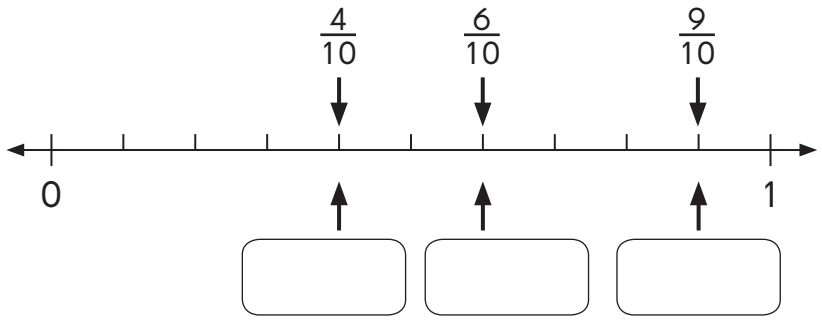
20. 14 ÷ 4

Name: _____ Date: _____

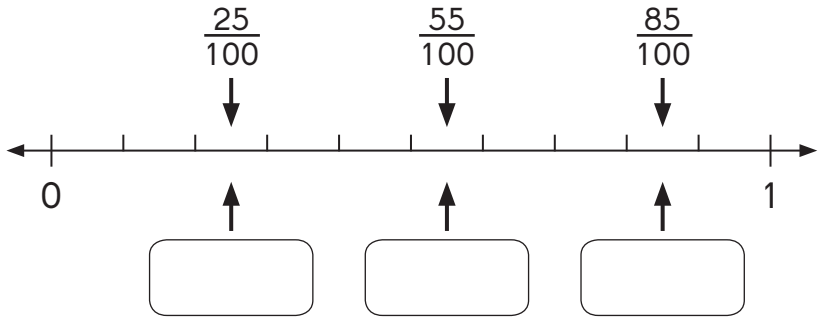
Worksheet 4 Expressing Fractions, Division Expressions, and Mixed Numbers as Decimals

Write each fraction shown on the number line as a decimal.

1.



2.



Write each fraction as a decimal.

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

4. $\frac{3}{10} =$ _____

5. $\frac{15}{100} =$ _____

6. $\frac{43}{100} =$ _____

7. $\frac{82}{100} =$ _____

8. $\frac{66}{100} =$ _____

Name: _____ **Date:** _____

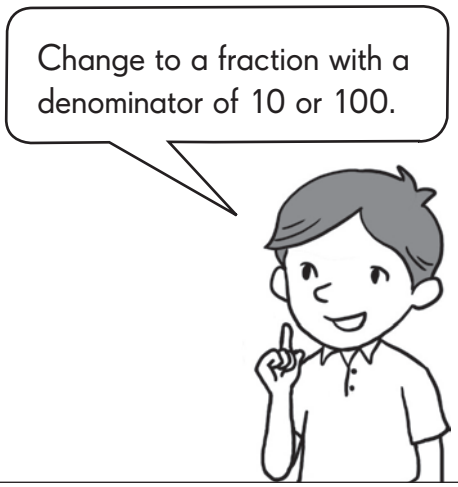
Write each fraction as a decimal.

Example

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

$$= \frac{6}{10}$$

$$= 0.6$$



9. $\frac{4}{5} = \frac{\square \times \square}{\square \times \square}$

$= \frac{\square}{10}$

$= \_\_\_\_\_$

10. $\frac{3}{4} = \frac{\square \times \square}{\square \times \square}$

$= \frac{\square}{100}$

$= \_\_\_\_\_$

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

12. $\frac{12}{50}$

13. $\frac{9}{20}$

14. $\frac{21}{25}$

Name: _____ **Date:** _____

Write each division expression as a decimal.

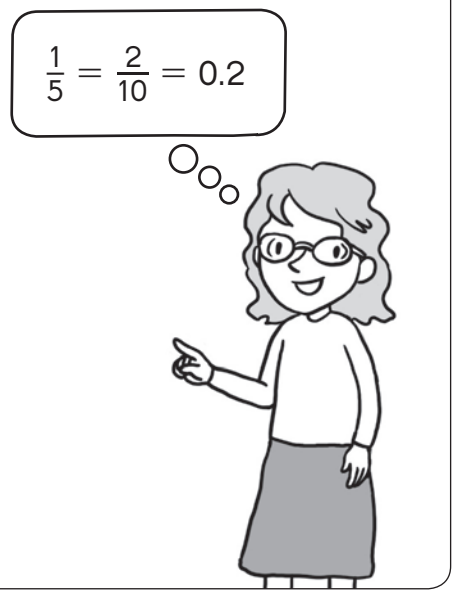
Example

$6 \div 5 = \frac{6}{5}$

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

$= 1 + 0.2$

$= 1.2$



15. $5 \div 4 = \frac{\square}{4}$

$= \frac{\square}{4} + \frac{\square}{4}$

$= \_\_\_\_ + \_\_\_\_$

$= \_\_\_\_$

16. $7 \div 2 = \frac{\square}{2}$

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

$= \_\_\_\_ + \_\_\_\_$

$= \_\_\_\_$

17. $13 \div 10$

18. $7 \div 5$

19. $10 \div 8$

20. $35 \div 25$

Name: _____ **Date:** _____

Write each mixed number as a decimal.

Example

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

$= 1 + \underline{0.8}$

$= \underline{1.8}$

$\frac{4}{5} = \frac{\boxed{8}}{10} = \underline{0.8}$

21. $3\frac{11}{25} = 3 + \frac{\square}{25}$

$= \_\_\_\_ + \_\_\_\_$

$= \_\_\_\_$

$\frac{11}{25} = \frac{\square}{100} = \_\_\_\_$

22. $5\frac{17}{20} = \square + \square$

$= \_\_\_\_ + \_\_\_\_$

$= \_\_\_\_$

$\frac{17}{20} = \frac{\square}{100} = \_\_\_\_$

23. $2\frac{3}{4}$

24. $5\frac{49}{50}$

Name: _____ Date: _____

Worksheet 5 Adding Mixed Numbers

Add. Express each sum in simplest form.

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

$= \frac{\square}{4}$

$= \square$

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

$= \frac{\square}{6}$

$= \square\frac{\square}{6}$

$= \square$

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

4. $\frac{2}{3} + \frac{4}{9}$

Name: _____ **Date:** _____

Add. Express each sum in simplest form.

Example

$$\frac{2}{5} + 1\frac{7}{10} = \frac{4}{10} + \frac{7}{10} + 1$$

$$= 1\frac{11}{10}$$

$$= 2\frac{1}{10}$$

$\frac{2}{5} = \frac{4}{10}$

$1\frac{7}{10} = \frac{7}{10} + 1$

$1\frac{11}{10} = 1 + \frac{11}{10}$

$= 1 + 1\frac{1}{10}$

$= 2\frac{1}{10}$

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

$= \square$

$= \square$

6. $\frac{5}{6} + 2\frac{5}{12}$

7. $3\frac{2}{3} + \frac{5}{9}$

Name: _____ Date: _____

Add. Express each sum in simplest form.

Example

$1\frac{1}{3} + 2\frac{1}{9} = 1\frac{\boxed{3}}{9} + 2\frac{\boxed{1}}{9}$

$= \boxed{3\frac{4}{9}}$

Add the fractions.
$\frac{3}{9} + \frac{1}{9} = \frac{4}{9}$
Add the whole numbers.
$1 + 2 = 3$

8. $2\frac{1}{5} + 4\frac{1}{6} = 2\frac{\square}{30} + 4\frac{\square}{30}$

$= \square$

9. $3\frac{1}{7} + 5\frac{1}{3} = 3\frac{\square}{21} + 5\frac{\square}{21}$

$= \square$

10. $2\frac{2}{3} + 1\frac{3}{5}$

11. $1\frac{5}{7} + 3\frac{1}{2}$

12. $2\frac{3}{4} + 4\frac{3}{5}$

13. $3\frac{3}{7} + 2\frac{5}{6}$

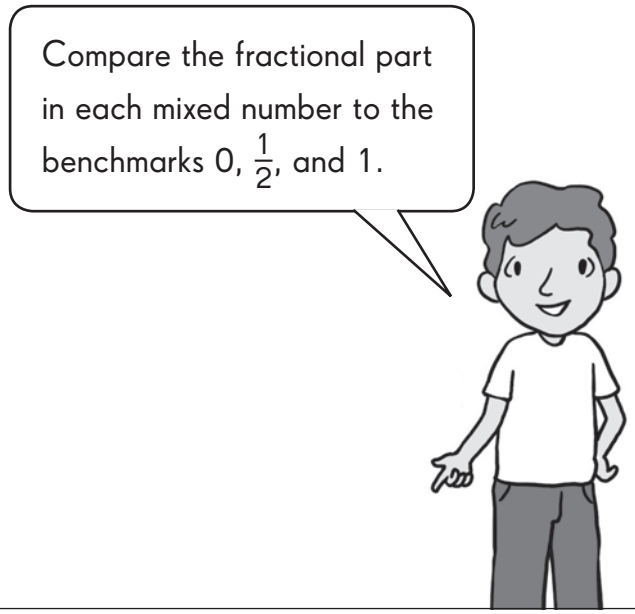
Name: _____ **Date:** _____

Use benchmarks to estimate each sum.

Example

$2\frac{4}{5} + 1\frac{4}{9}$

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



14. $2\frac{3}{7} + 4\frac{7}{12}$

15. $5\frac{2}{11} + 3\frac{5}{8}$

16. $3\frac{5}{6} + 6\frac{8}{9}$

Name: _____ Date: _____

Worksheet 6 Subtracting Mixed Numbers

Subtract. Express each difference in simplest form.

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

$= \frac{\square}{8}$

2. $\frac{2}{3} - \frac{4}{9} = \frac{\square}{9} - \frac{\square}{9}$

$= \frac{\square}{9}$

3. $\frac{5}{6} - \frac{5}{12}$

4. $\frac{7}{12} - \frac{1}{4}$

Subtract. Express each difference in simplest form.

Example

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

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

5. $2\frac{7}{8} - \frac{1}{2} = 2\frac{\square}{8} - \frac{\square}{8}$

$= \square$

6. $4\frac{2}{3} - \frac{1}{9}$

7. $3\frac{3}{4} - \frac{5}{12}$

Name: _____ **Date:** _____

Subtract. Express each difference in simplest form.

Example

$4\frac{3}{5} - 1\frac{1}{10} = 4\frac{\boxed{6}}{10} - 1\frac{\boxed{1}}{10}$

$= \boxed{3\frac{5}{10}}$

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

Subtract the fractions.
$\frac{6}{10} - \frac{1}{10} = \frac{5}{10}$

Subtract the whole numbers.
$4 - 1 = 3$

8. $3\frac{1}{2} - 1\frac{1}{3} = 3\frac{\square}{6} - 1\frac{\square}{6}$

$= \square$

9. $4\frac{1}{3} - 1\frac{1}{5}$

10. $5\frac{1}{5} - 2\frac{1}{7}$

11. $6\frac{1}{4} - 3\frac{1}{8}$

Name: _____ **Date:** _____

Subtract. Express each difference in simplest form.

Example

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

$= 2\frac{5}{4} - 1\frac{2}{4}$

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

We cannot subtract $\frac{1}{2}$ from $\frac{1}{4}$. So, we rename $3\frac{1}{4}$ as $3\frac{1}{4} = 2 + \frac{4}{4} + \frac{1}{4} = 2\frac{5}{4}$.

12. $5\frac{1}{10} - 2\frac{1}{5}$

13. $4\frac{1}{3} - 1\frac{7}{9}$

14. $3\frac{2}{3} - 1\frac{3}{4}$

15. $4\frac{3}{4} - 2\frac{4}{5}$

Name: _____ **Date:** _____

Use benchmarks to estimate each difference.

Example

$3\frac{3}{4} - 1\frac{3}{5}$

$\downarrow \quad \downarrow$

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

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

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

16. $5\frac{1}{8} - 2\frac{11}{12}$

17. $4\frac{3}{4} - 2\frac{6}{7}$

18. $7\frac{2}{9} - 1\frac{7}{8}$

Name: _____ Date: _____

Worksheet 7 Real-World Problems: Fractions and Mixed Numbers

Solve. Show your work.

1. Lauren had 3 liters of water. She poured the water into 7 glasses equally. How much water was there in each glass?

2. Mr. Bennett bought a loaf of bread, which was cut into 20 equal slices. He gave the bread equally to 8 children. How many slices of bread did each child get?

3. Mrs. Williams had some watermelons. She gave $\frac{1}{4}$ of the watermelons to Mrs. Lopez and $\frac{7}{12}$ of the watermelons to Mrs. Brown. What fraction of the watermelons did Mrs. Williams give away?

Name: _____ **Date:** _____

Solve. Show your work.

4. Ellen bought $\frac{5}{9}$ pound of flour. She used $\frac{1}{2}$ pound of flour to make pies. How much flour did Ellen have left?

5. Mr. Hayes sold $\frac{7}{9}$ of a crate of grapefruit. He sold $\frac{3}{5}$ of another crate of grapefruit. How many crates of grapefruit did Mr. Hayes sell in all?

6. Latoya had $2\frac{3}{4}$ liters of water in a watering can. She used $1\frac{2}{7}$ liters of the water to water her plants. How much water did Latoya have left in the watering can?

Name: _____ **Date:** _____

Solve. Show your work.

7. Jose went jogging with Sam. Jose jogged $\frac{5}{8}$ mile before he stopped to rest. Sam jogged $\frac{1}{4}$ mile more than Jose before stopping. After resting, they continued jogging. Each of them jogged a total distance of $2\frac{1}{5}$ miles.

a. How far did Sam jog before stopping?

b. What was the distance Jose jogged after resting?

8. Sharon completed her English homework in $\frac{2}{3}$ hour. She completed her science homework in $\frac{5}{6}$ hour.

a. How much longer did Sharon take to complete her science homework?

b. How much time did she spend on her homework altogether?

Name: _____ **Date:** _____

Solve. Show your work.

9. Jana spent $\frac{1}{6}$ of her leisure time playing games. She spent $\frac{1}{4}$ more of her time reading than playing games. Jana spent the rest of her leisure time exercising.

a. What fraction of Jana's leisure time was spent reading?

b. What fraction of her leisure time was spent exercising?

10. A shopkeeper had $3\frac{1}{2}$ kilograms of onions. He sold $1\frac{1}{4}$ kilograms of onions in the morning and $1\frac{3}{8}$ kilograms in the afternoon.

a. How many kilograms of onions did the shopkeeper sell altogether?

b. How many kilograms of onions did he have left?