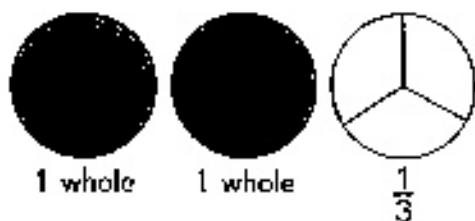


## Worksheet 3 Mixed Numbers

Shade the model to show each mixed number.

Example

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

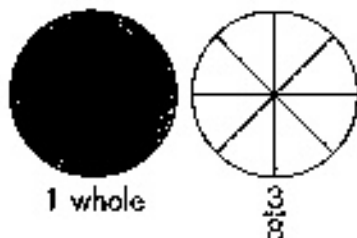


$$\text{So, } 2 + \frac{1}{3} = \underline{2\frac{1}{3}}$$

When you add a whole number and a fraction, you get a **mixed number**.  $2\frac{1}{3}$  is a mixed number.

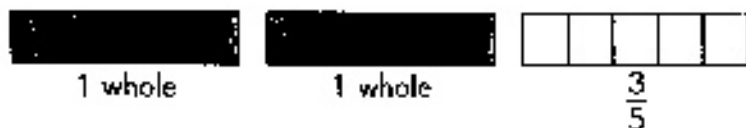


1.



$$\boxed{\phantom{0}} + \boxed{\phantom{0}} = 1\frac{3}{8}$$

2.



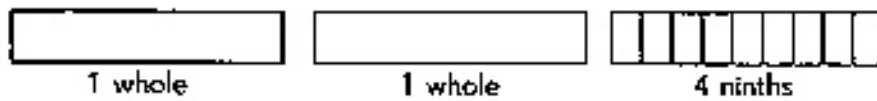
$$\boxed{\phantom{0}} + \boxed{\phantom{0}} = 2\frac{3}{5}$$

Names: \_\_\_\_\_

Date: \_\_\_\_\_

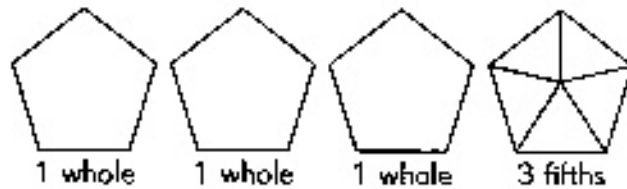
**Find the mixed number that describes each model.**

*Example*



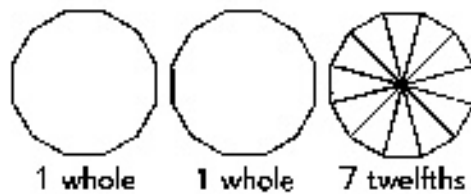
$$2 + \frac{4}{9} = 2\frac{4}{9}$$

**3.**



$$\boxed{\phantom{0}} + \boxed{\phantom{0}} = \boxed{\phantom{0}}$$

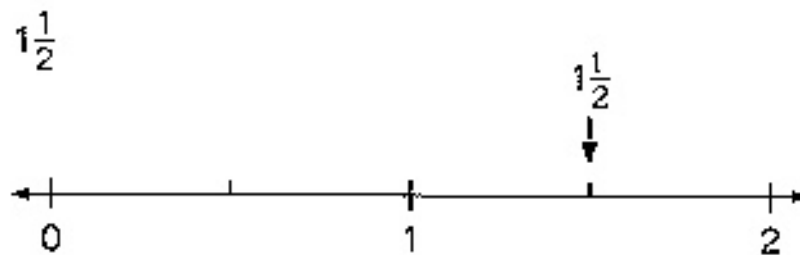
**4.**



$$\boxed{\phantom{0}} + \boxed{\phantom{0}} = \boxed{\phantom{0}}$$

**Write each mixed number on the number line.**

*Example*



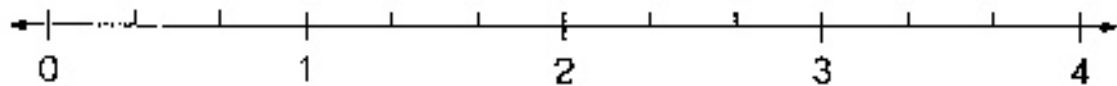
Name: \_\_\_\_\_

Date: \_\_\_\_\_

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

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

7.  $3\frac{2}{3}$



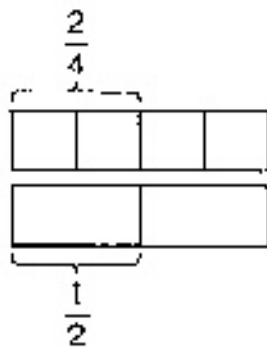
Express each mixed number in simplest form.

*Example*

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

**Method 1**

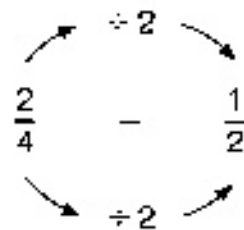
Draw models.



So,  $1\frac{2}{4} = 1\frac{1}{2}$ .

**Method 2**

Divide the numerator and the denominator by the same number.



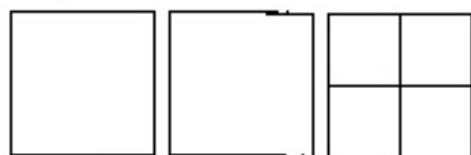
So,  $1\frac{2}{4} = 1\frac{1}{2}$ .

8.  $2\frac{3}{12}$

9.  $3\frac{6}{8}$

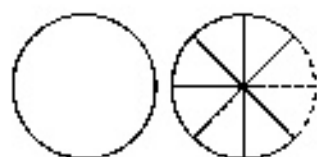
**Find the number of wholes and parts that are shaded. Then write each sum as a mixed number in simplest form.**

*Example*



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

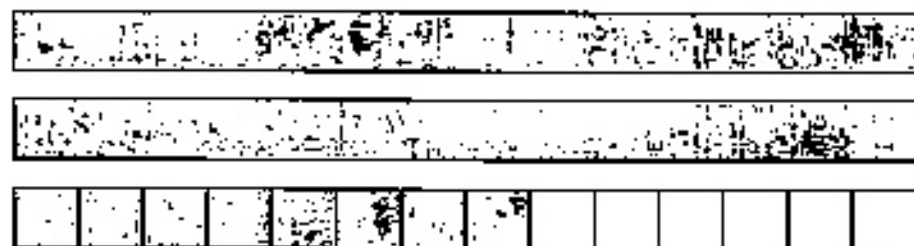
**10.**



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

$$\frac{\quad}{\quad}$$

**11.**



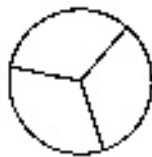
$$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{\quad}{\quad}$$

## Worksheet 4 Improper Fractions

Write each description as a fraction.

Example

1 third  $\left[ \frac{1}{3} \right]$  

1. 3 quarters =  $\left[ \quad \right]$

2. 4 fifths =  $\left[ \quad \right]$

3. 5 sixths =  $\left[ \quad \right]$

4. 6 eighths =  $\left[ \quad \right]$

5. 7 tenths =  $\left[ \quad \right]$

Express each mixed number as an improper fraction.

Example

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



1 whole  $\left[ 3 \right]$  thirds



$\frac{2}{3} = \left[ 2 \right]$  thirds

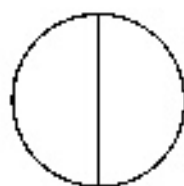
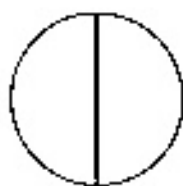
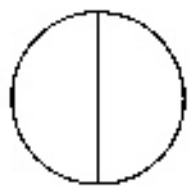
There are  $\left[ 5 \right]$  thirds in  $1\frac{2}{3}$ .

$$1\frac{2}{3} = \left[ \frac{1}{3} \right] + \left[ \frac{1}{3} \right] + \left[ \frac{1}{3} \right] + \left[ \frac{1}{3} \right] + \left[ \frac{1}{3} \right] = \left[ \frac{5}{3} \right]$$

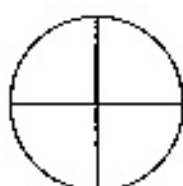
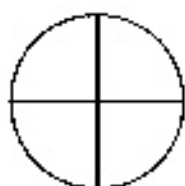
So,  $1\frac{2}{3} = \frac{5}{3}$ .

An **improper fraction** is equal to or greater than 1.

$\frac{5}{3}$  is an improper fraction.

6.  $2\frac{1}{2}$ 2 wholes =  $(\quad)$  halves $\frac{1}{2}$  =  $(\quad)$  halfThere are  $(\quad)$  halves in  $2\frac{1}{2}$ .

$$2\frac{1}{2} = \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

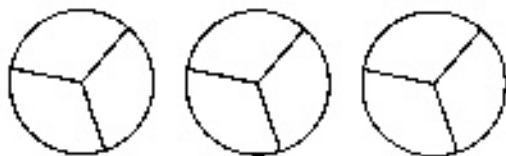
7.  $1\frac{3}{4}$ 1 whole =  $(\quad)$  quarters $\frac{3}{4}$  =  $(\quad)$  quartersThere are  $(\quad)$  quarters in  $1\frac{3}{4}$ .

$$1\frac{3}{4} = \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

**Express each mixed number as an improper fraction.**  
**Use the models to help you.**

*Example*

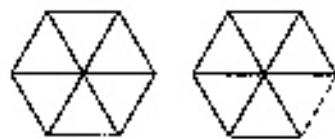
How many thirds are there in  $2\frac{1}{3}$ ?



There are  thirds in  $2\frac{1}{3}$ .

$$2\frac{1}{3} = \left[ 7 \right] \text{ thirds} - \left[ \frac{7}{3} \right]$$

8. How many sixths are there in  $1\frac{5}{6}$ ?



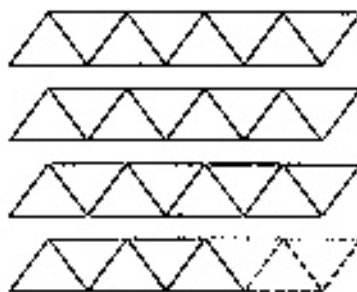
There are  sixths in  $1\frac{5}{6}$ .

$$1\frac{5}{6} = \left[ \quad \right] \text{ sixths} = \left[ \quad \right]$$

9. How many eighths are there in  $3\frac{5}{8}$ ?

There are  eighths in  $3\frac{5}{8}$ .

$$3\frac{5}{8} = \left[ \quad \right] \text{ eighths} = \left[ \quad \right]$$

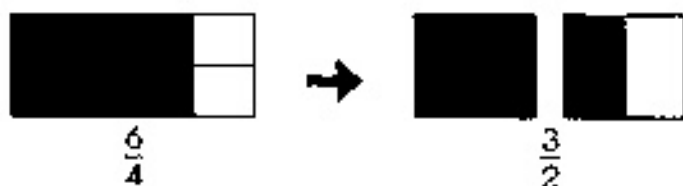


**Express each improper fraction in simplest form.***Example*

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

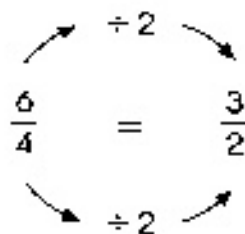
**Method 1**

Simplify the fractions shown by the shaded parts.

**Method 2**

Divide the numerator and the denominator by the same number.

$$\text{So, } \frac{6}{4} = \boxed{\frac{3}{2}}$$



10.  $\frac{12}{8} = \boxed{\phantom{\frac{3}{2}}}$

11.  $\frac{24}{15} = \boxed{\phantom{\frac{3}{2}}}$

12.  $\frac{30}{8} = \boxed{\phantom{\frac{3}{2}}}$

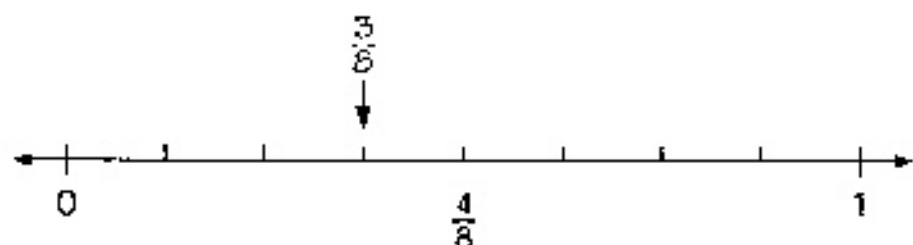
13.  $\frac{48}{36} = \boxed{\phantom{\frac{3}{2}}}$



Write each fraction on the number line.

Example

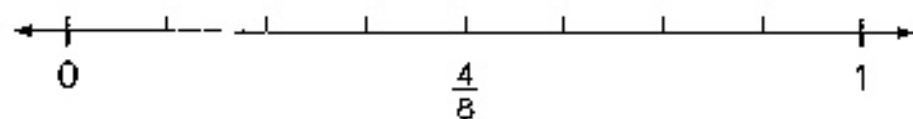
$$\frac{3}{8}$$



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

15.  $\frac{7}{8}$

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



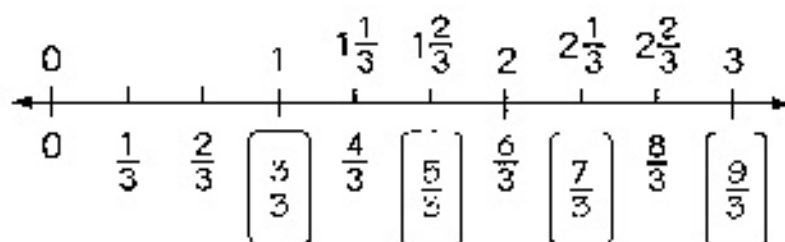
$$\frac{3}{4} = \frac{\square}{8}$$

$$\frac{1}{2} = \frac{\square}{8}$$



Write the missing improper fraction in each box.

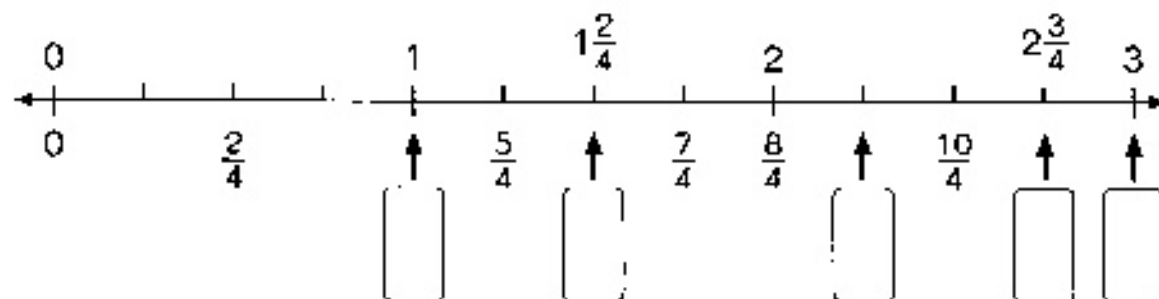
Example



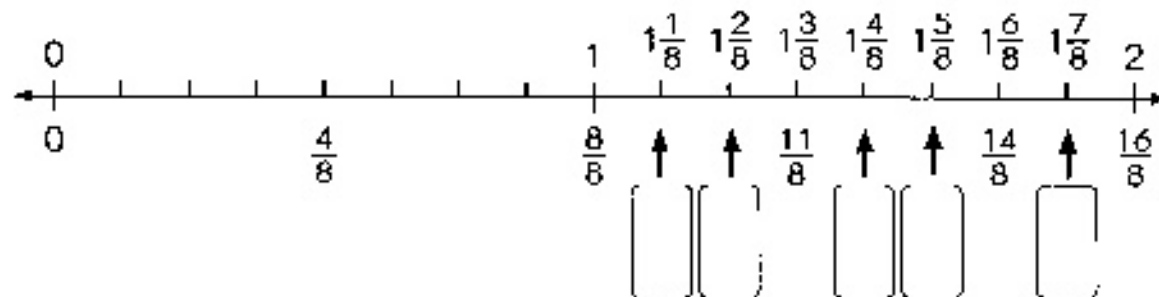
$$\begin{aligned}
 1 &= 3 \text{ thirds} = \frac{3}{3} \\
 1\frac{2}{3} &= 1 + \frac{2}{3} \\
 &= \frac{3}{3} + \frac{2}{3} \\
 &= \frac{5}{3}
 \end{aligned}$$



17.



18.



Name: \_\_\_\_\_

Date: Thurs. 3 / 19

## Worksheet 5 Renaming Improper Fractions and Mixed Numbers

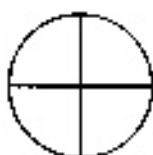
Complete each statement.

Example

3 thirds is 1 whole.

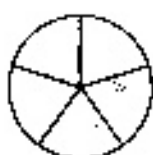


1.



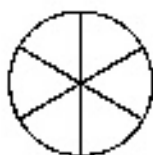
4 quarters is \_\_\_\_\_ whole.

2.



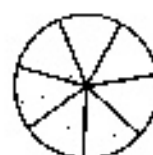
5 fifths is \_\_\_\_\_ whole.

3.



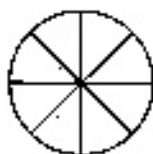
\_\_\_\_\_ sixths is 1 whole.

4.



\_\_\_\_\_ sevenths is 1 whole.

5.



\_\_\_\_\_ eighths is 1 whole.

**Rename each improper fraction as a mixed number.**  
**Use models to help you.**

*Example*

$$\frac{7}{3} \text{ --- ?}$$



$$\frac{7}{3} = \boxed{7} \text{ thirds}$$

$$= \boxed{6} \text{ thirds} + \boxed{1} \text{ third}$$

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

$$\text{So, } \frac{7}{3} = 2\frac{1}{3}.$$

6.  $\frac{14}{5} = \boxed{\quad} \text{ fifths}$

$$= \boxed{\quad} \text{ fifths} + \boxed{\quad} \text{ fifths}$$

$$= \boxed{\quad} + \boxed{\quad}$$

$$= \boxed{\quad}$$

7.  $\frac{23}{6} = \boxed{\quad} \text{ sixths}$

$$= \boxed{\quad} \text{ sixths} + \boxed{\quad} \text{ sixths}$$

$$= \boxed{\quad} + \boxed{\quad}$$

$$= \boxed{\quad}$$

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**Use the division rule to rename each improper fraction as a mixed number.**

Example

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

$$\begin{array}{r} \phantom{0} \boxed{2} \\ 5 \overline{) 12} \\ \underline{10} \phantom{0} \\ \phantom{0} \boxed{2} \phantom{0} \end{array}$$

**Division Rule:**

Divide the numerator by the denominator.

$$12 \div 5 = 2 \text{ R } 2$$

There are  $\boxed{2}$  wholes and  $\boxed{2}$  fifths in  $\frac{12}{5}$ .

So,  $\frac{12}{5} = \underline{2\frac{2}{5}}$



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

$$\begin{array}{r} \phantom{0} \boxed{\phantom{0}} \\ 3 \overline{) 8} \\ \underline{\phantom{0} \boxed{\phantom{0}}} \\ \phantom{0} \boxed{\phantom{0}} \end{array}$$

There are  $\boxed{\phantom{0}}$  wholes and

$\boxed{\phantom{0}}$  thirds in  $\frac{8}{3}$ .

So,  $\frac{8}{3} = \underline{\phantom{0}}$

9.  $\frac{37}{7}$

$$\begin{array}{r} \phantom{0} \boxed{\phantom{0}} \\ 7 \overline{) 37} \\ \underline{\phantom{0} \boxed{\phantom{0}}} \\ \phantom{0} \boxed{\phantom{0}} \end{array}$$

There are  $\boxed{\phantom{0}}$  wholes and

$\boxed{\phantom{0}}$  sevenths in  $\frac{37}{7}$ .

So,  $\frac{37}{7} = \underline{\phantom{0}}$

**Rename the improper fraction as a mixed number in simplest form. Then check your answer using the division rule.**

*Example*

$$\frac{45}{6} = ?$$

$$\frac{45}{6} = \boxed{45} \text{ sixths} = \boxed{42} \text{ sixths} + \boxed{3} \text{ sixths}$$

$$= \boxed{\frac{42}{6}} + \boxed{\frac{3}{6}}$$

$$= \boxed{7} + \boxed{\frac{3}{6}}$$

$$= \boxed{7} + \boxed{\frac{1}{2}} = \boxed{7\frac{1}{2}}$$

$$\text{So, } \frac{45}{6} = 7\frac{1}{2}.$$

**Check**

$$\begin{array}{r} \boxed{7} \\ 6 \overline{) 45} \\ \underline{42} \phantom{0} \\ 3 \phantom{0} \end{array} \quad 45 \div 6 = \boxed{7} \text{ R } \boxed{3}$$

$$\frac{45}{6} = \boxed{7\frac{3}{6}} = \boxed{7\frac{1}{2}}$$

**10.**  $\frac{26}{4} = \boxed{\phantom{00}} \text{ quarters} = \boxed{\phantom{00}} \text{ quarters} + \boxed{\phantom{00}} \text{ quarters}$

$$= \boxed{\phantom{00}} + \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}} + \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

**Check**

$$\begin{array}{r} \boxed{\phantom{00}} \\ 4 \overline{) 26} \\ \underline{20} \phantom{0} \\ 6 \phantom{0} \end{array} \quad 26 \div 4 = \boxed{\phantom{00}} \text{ R } \boxed{\phantom{00}}$$

$$\frac{26}{4} = \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

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11.  $\frac{48}{9} = (\quad) \text{ ninths}$

$= (\quad) \text{ ninths} + (\quad) \text{ ninths}$

$= (\quad) + (\quad)$

$= (\quad) + (\quad)$

$= (\quad) + (\quad)$

$= (\quad)$

**Check**

$$\begin{array}{r} \square \\ 9 \overline{) 48} \\ \square \\ \hline \square \end{array}$$

$$48 \div 9 = \square \text{ R } \square$$

$$\frac{48}{9} = \square = \square$$

Use the multiplication rule to rename each mixed number as an improper fraction.

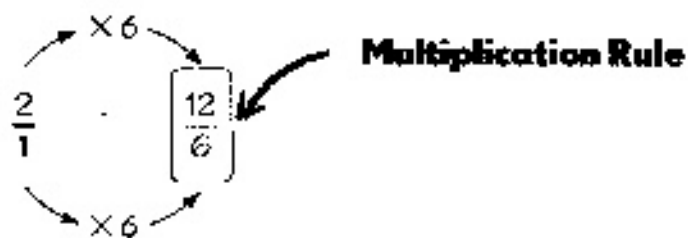
Example

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

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

$$= \frac{12}{6} + \frac{1}{6} = \frac{13}{6}$$

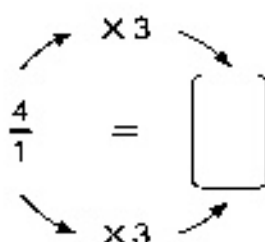
So,  $2\frac{1}{6} = \frac{13}{6}$ .



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

$$= \boxed{\phantom{00}} + \frac{1}{3}$$

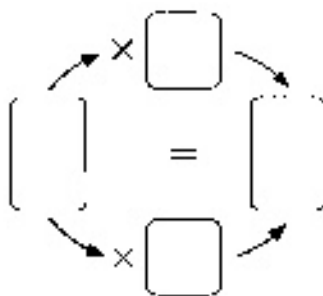
$$= \boxed{\phantom{00}}$$



13.  $6\frac{2}{5} = 6 + \boxed{\phantom{00}}$

$$= \boxed{\phantom{00}} + \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$





**Rename each mixed number as an improper fraction in simplest form. Check your answer.**

*Example*

$$2\frac{3}{4} = ?$$

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

$$= \boxed{\frac{8}{4}} + \boxed{\frac{3}{4}}$$

$$= \boxed{\frac{11}{4}}$$

So,  $2\frac{3}{4} = \frac{11}{4}$ .

**Check**

Step 1 Multiply the whole number by the denominator.

$$2 \times \boxed{4} = \boxed{8}$$

Step 2 Add the product to the numerator.

$$\boxed{8} + 3 = \boxed{11}$$

There are  $\boxed{11}$  quarters in  $2\frac{3}{4}$ .

**14.**

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

$$= \boxed{\phantom{\frac{10}{2}}} + \boxed{\phantom{\frac{1}{2}}}$$

$$= \boxed{\phantom{\frac{11}{2}}}$$

**Check**

$$5 \times \boxed{\phantom{2}} = \boxed{\phantom{10}}$$

$$\boxed{\phantom{10}} + \boxed{\phantom{1}} = \boxed{\phantom{11}}$$

There are  $\boxed{\phantom{11}}$  halves in  $5\frac{1}{2}$ .

15.  $7\frac{5}{6} = \boxed{\phantom{00}} + \boxed{\phantom{00}}$

$\phantom{7\frac{5}{6}} - \boxed{\phantom{00}} + \boxed{\phantom{00}}$

$\phantom{7\frac{5}{6}} = \boxed{\phantom{00}}$

**Check**

$7 \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$

$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$

There are  $\boxed{\phantom{00}}$  sixths in  $7\frac{5}{6}$ .

16.  $8\frac{8}{9} = \boxed{\phantom{00}} + \boxed{\phantom{00}}$

$\phantom{8\frac{8}{9}} = \boxed{\phantom{00}} + \boxed{\phantom{00}}$

$\phantom{8\frac{8}{9}} = \boxed{\phantom{00}}$

**Check**

$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$

$\boxed{\phantom{00}} + \boxed{\phantom{00}} - \boxed{\phantom{00}}$

There are  $\boxed{\phantom{00}}$  ninths in  $8\frac{8}{9}$ .

## Worksheet 6 Renaming Whole Numbers when Adding and Subtracting Fractions

**Add.** Express each answer as a mixed number in simplest form.

*Example*

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

$$\frac{3}{4} + \frac{3}{4} = \left[ \frac{6}{4} \right]$$

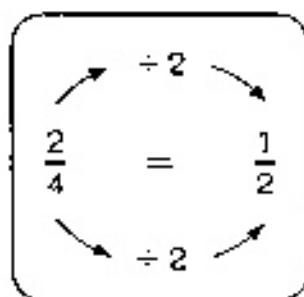
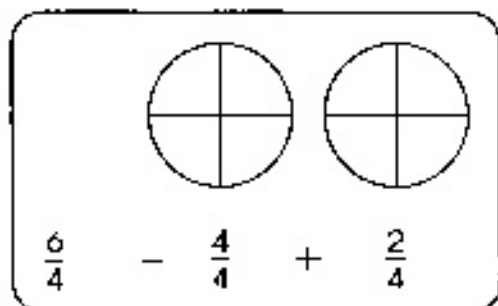
$$= \left[ \frac{4}{4} \right] + \left[ \frac{2}{4} \right]$$

$$= \left[ 1 \right] + \left[ \frac{2}{4} \right]$$

$$= \left[ 1\frac{2}{4} \right]$$

$$\left[ 1\frac{1}{2} \right]$$

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



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Date: \_\_\_\_\_

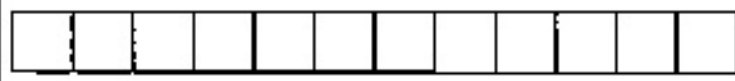
$$\begin{aligned} 1. \quad \frac{4}{5} + \frac{3}{5} &= \boxed{\phantom{00}} \\ &= \frac{\phantom{4}}{5} + \frac{\phantom{3}}{5} \\ &= 1 + \boxed{\phantom{00}} \\ &= \boxed{\phantom{00}} \end{aligned}$$

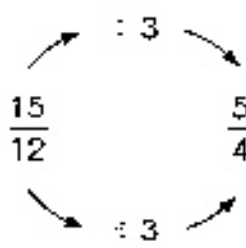
$$\begin{aligned} 2. \quad \frac{7}{12} + \frac{11}{12} &= \boxed{\phantom{00}} \\ &= \frac{\phantom{7}}{12} + \frac{\phantom{11}}{12} \\ &= \boxed{\phantom{00}} + \boxed{\phantom{00}} \\ &= \boxed{\phantom{00}} \\ &= \boxed{\phantom{00}} \end{aligned}$$

**Find the equivalent fraction. Then add. Express each answer in simplest form.**

**Example**

$$\frac{2}{3} + \frac{7}{12} = ?$$


$$\frac{2}{3} + \frac{7}{12} = \frac{8}{12} + \frac{7}{12}$$


$$= \frac{15}{12}$$


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

So,  $\frac{2}{3} + \frac{7}{12} = 1\frac{1}{4}$ .

**3.**  $\frac{4}{5} + \frac{7}{10} = \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}} + \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$

$$= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

$$= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

$$= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

**4.**  $\frac{8}{9} + \frac{1}{3} = \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}} + \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$

$$= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

$$= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

**Find the sum. Express each answer in simplest form.**

*Example*

$$\frac{2}{3} + \frac{5}{9} + \frac{4}{9} = ?$$

$$\frac{2}{3} + \frac{5}{9} + \frac{4}{9} = \left( \frac{6}{9} \right) + \left( \frac{5}{9} \right) + \left( \frac{4}{9} \right)$$

$$= \frac{15}{9}$$

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

So,  $\frac{2}{3} + \frac{5}{9} + \frac{4}{9} = 1\frac{2}{3}$ .

5.  $\frac{2}{3} + \frac{7}{12} + \frac{11}{12} = \left( \quad \right) + \left( \quad \right) + \left( \quad \right)$

$$= \left( \quad \right)$$

$$= \left( \quad \right)$$

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$$6. \quad 1 + \frac{3}{4} + \frac{7}{12} = \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$

**Express each whole number as a mixed number.**

*Example* \_\_\_\_\_

$$2 = \left( 1 \right) \frac{3}{3}$$

$$7. \quad 3 = 2 \frac{\boxed{\phantom{00}}}{8}$$

$$8. \quad 4 = \left( \phantom{00} \right) \frac{\boxed{\phantom{00}}}{12}$$

$$9. \quad 2 = 1 \frac{5}{\boxed{\phantom{00}}}$$

$$10. \quad 5 = \left( \phantom{00} \right) \frac{4}{\boxed{\phantom{00}}}$$

**Subtract each fraction from a whole number to get a mixed number.**

*Example*

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

**Method 1**

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

$$2 = 1 + 1$$

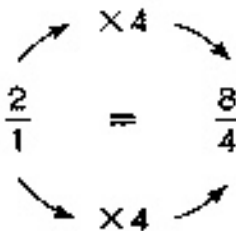
$$= 1 + \frac{4}{4} = 1\frac{4}{4}$$

$$- \boxed{1\frac{1}{4}}$$

**Method 2**

$$2 - \frac{3}{4} = \boxed{\frac{8}{4}} - \boxed{\frac{3}{4}}$$

$$2 = \frac{4}{4} + \frac{4}{4} = \frac{8}{4} \text{ or } 2 = \frac{2}{1} = \frac{8}{4}$$



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

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

So,  $2 - \frac{3}{4} = 1\frac{1}{4}$ .

**11.**

$$1 - \frac{3}{8} = \boxed{\phantom{00}} - \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$

**12.**

$$3 - \frac{5}{12} = \boxed{\phantom{00}} - \boxed{\phantom{00}}$$

$$= \boxed{\phantom{00}}$$



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13.  $3 - \frac{5}{9} = \left[ \quad \right] - \left[ \quad \right]$   
 $= \left[ \quad \right]$   
 $= \left[ \quad \right]$

14.  $4 - \frac{2}{3} = \left[ \quad \right] - \left[ \quad \right]$   
 $= \left[ \quad \right]$   
 $= \left[ \quad \right]$

**Subtract. Express your answer in simplest form.**

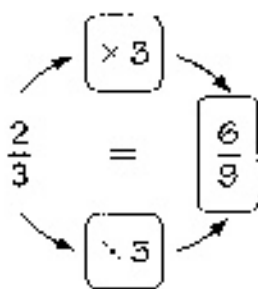
*Example*

$$\frac{2}{3} - \frac{5}{9} = ?$$

$$\frac{2}{3} - \frac{5}{9} = \left[ \frac{6}{9} \right] - \left[ \frac{5}{9} \right]$$

$$= \left[ \frac{1}{9} \right]$$

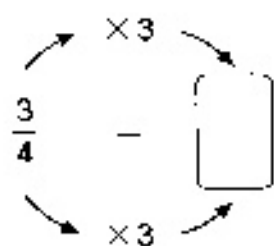
So,  $\frac{2}{3} - \frac{5}{9} = \frac{1}{9}$ .



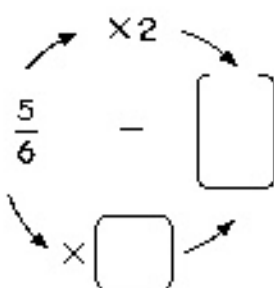
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15.  $\frac{3}{4} - \frac{7}{12} =$   -   
 =   
 =



16.  $\frac{5}{6} - \frac{5}{12} =$   -   
 =



17.  $\frac{4}{5} - \frac{3}{10} =$   -   
 =   
 =

