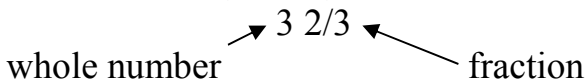**Study the following words.**

mixed fraction (**miksd**) - a fraction along with a whole number. example:

$3\ 2/3$

whole number   fraction

      Say three <u>and</u> two-thirds.

proper fraction (**prop**-ur) - a fraction with the top number (numerator) less than the bottom number (denominator). Example: 4/5

improper fraction (im-**prop**-ur) - a fraction with the top number (numerator) greater than the bottom number (denominator). Example: 5/4

Say each word out loud and write it in the blank.

mixed_____
proper_____
improper_____

Write each definition in your own words.

mixed fraction

proper fraction

improper fraction

Write five examples of each.

mixed fraction

proper fraction

improper fraction

Matching.

mixed fraction   a fraction with the numerator less than the
                                  denominator.

proper fraction   a fraction with the numerator greater than the
                                  denominator.

improper fraction   a fraction along with a whole number

Study the following.

Mixed fractions and improper fractions are greater than 1.

Proper fractions are less than 1.

Circle the fractions that are greater than 1.

2 ½   4/8   3/2   6 ¾   8/3

9/13   4/5   9/3   3 1/3   5 1/7

Label the following as mixed, improper, or proper.

1.   5/6 _____

2.   6/2 _____

3.   6 1/7 _____

4.   9/4 _____

5.   8 11/12 _____

6.   ¼ _____

7.   18/17 _____

8.   6/19 _____

Study the following.

Mixed fractions

Example: 2 ¼

Whole number part   and   fraction part   makes a   Mixed fraction

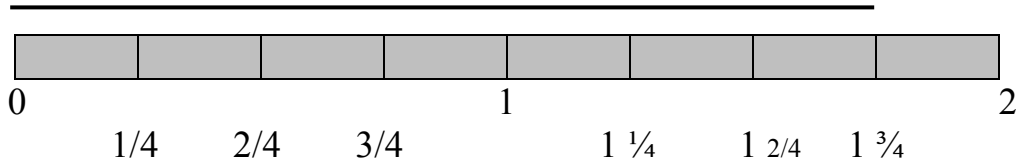| Whole number part	fraction part	Mixed fraction
2	¼	2 ¼

and
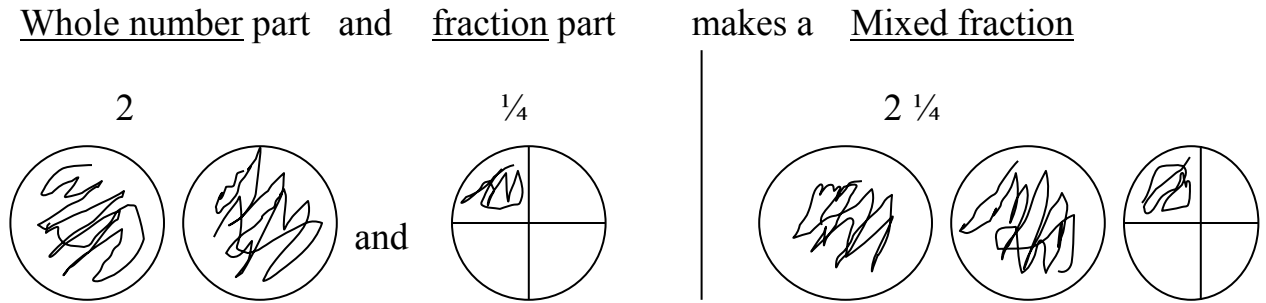
Draw 3 examples of mixed fractions like the above example.

whole number part   plus   fraction part   equals   mixed fraction

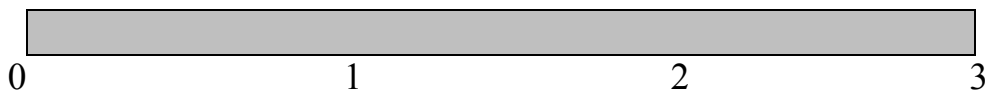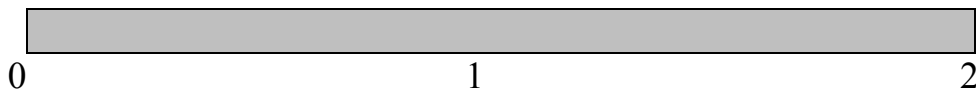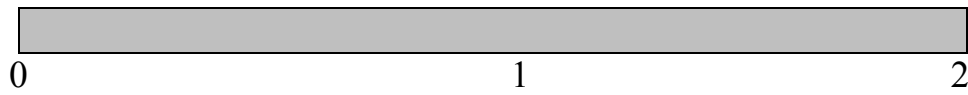|		

Study the following.

Mixed fractions.

Example:

0				1				2
	1/4	2/4	3/4		1 ¼	1 2/4	1 ¾	

The line is 1 whole inch long plus ¾ inches so it is 1 ¾ inches long.
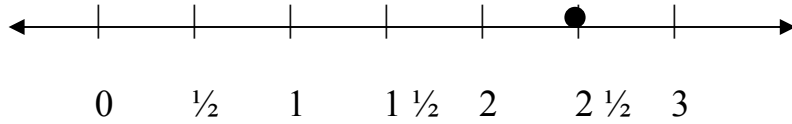
Draw 5 examples of mixed fractions like the one above.

0   1   2   3

0   1   2

0   1   2   3   4

0   1   2

0   1   2   3

Study the following.

Mixed fractions.

Example:

```
◄————|————|————|————|————|————●————|————►
     0    ½    1   1 ½   2   2 ½   3
```

The point is as far as 2 and then a little farther to ½. It is at 2 ½.

Draw 5 examples of mixed fractions like the one above.

```
◄————|————————————|————————————|————————————|————►
     0            1            2            3
```

```
◄————|————————|————————|————————|————————|————►
     0        1        2        3        4
```

```
◄————|————————————————————|————————————————————|————►
     1                    2                    3
```

```
◄————|————————————|————————————|————————————|————►
     0            1            2            3
```

```
◄————|————————————————————|————————————————————|————►
     0                    1                    2
```
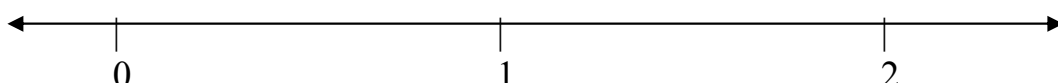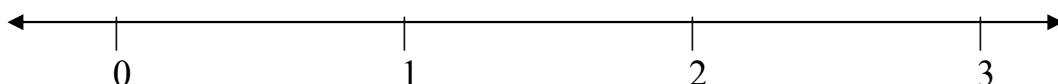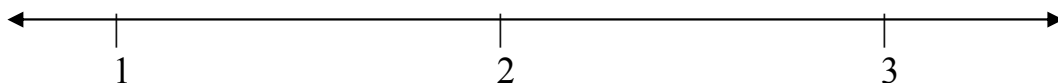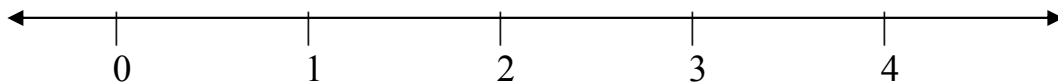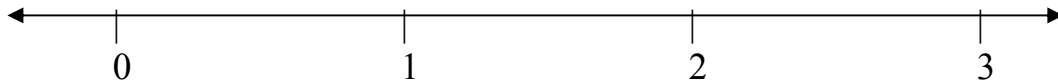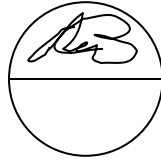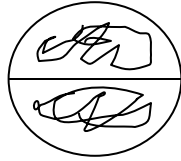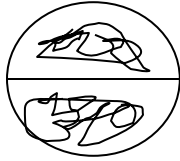
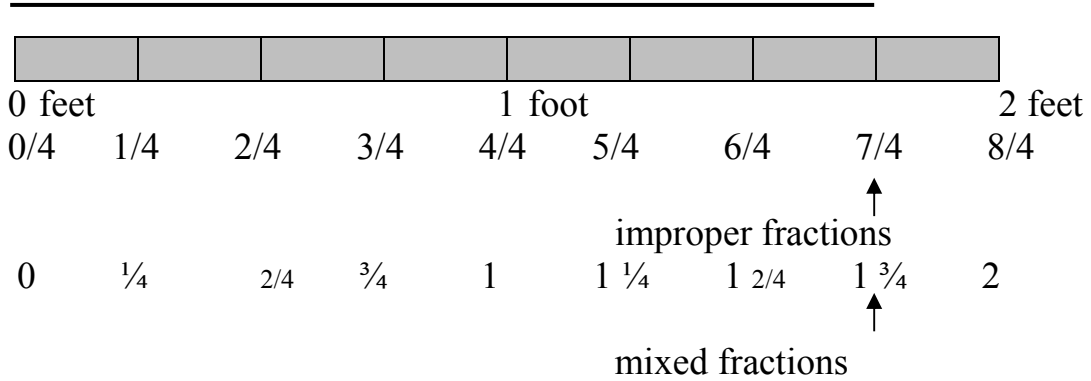## Study the following.

Improper fractions.

Example:

$\frac{5}{2}$

Draw 5 examples of improper fractions like the above.

fraction	drawing
1.	
2.	
3.	
4.	
5.	

Study the following.

Improper fractions.

Example :

0 feet   1 foot   2 feet

0/4   1/4   2/4   3/4   4/4   5/4   6/4   7/4   8/4

improper fractions

0   ¼   2/4   ¾   1   1 ¼   1 2/4   1 ¾   2

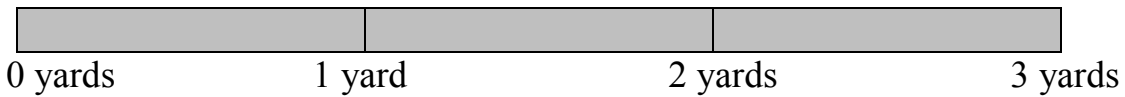mixed fractions

The line is 1 ¾ feet written as a mixed fraction. As an improper fraction, count all the equal parts (equal fourths in this example) to get 7/4.

Draw 4 examples of improper fractions like the above. Write the fraction.

0 yards   1 yard   2 yards   3 yards

Study the following.

Improper fractions.

Example:

The point is at 2 ½ written as a mixed fraction. As an improper fraction you can count all the equal parts (equal halves in this example), to get 5/2.
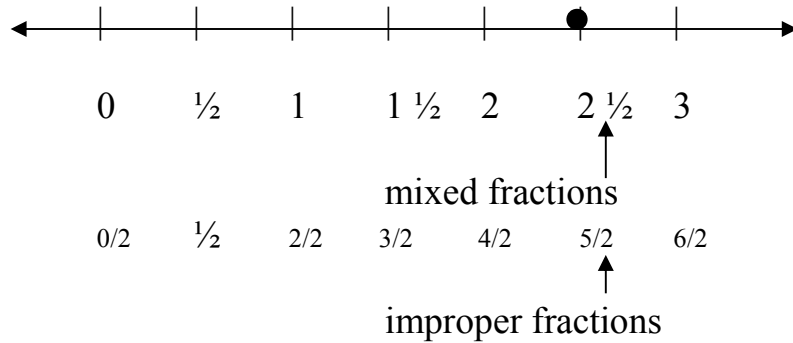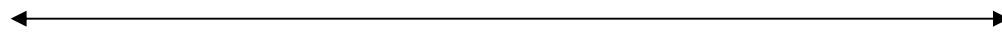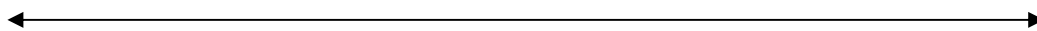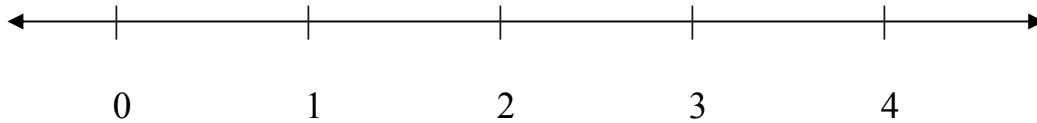
Draw 4 examples of improper fractions like the above. Write the fraction.
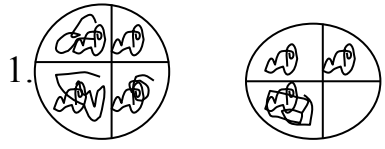
Study the following.
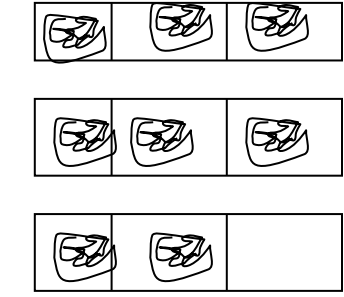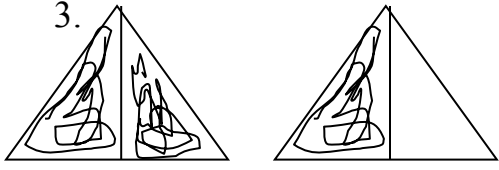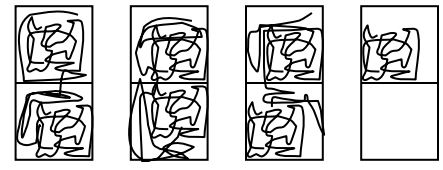
Look at the picture below.

This shows either 2 wholes and one half (2 ½) ◄——— a mixed fraction

or five halves (5/2). ◄——— An improper fraction

Write the following as a mixed fraction, and an improper fraction.

	Mixed fraction	improper fraction
1.		
2.		
3.		
4.		

Draw these improper fractions and write the mixed fraction that means the same thing.

	Improper fraction	drawing	mixed fraction
1.	4/3		
2.	13/4		
3.	7/2		
4.	10/6		
5.	17/8		
6.	3/2		
7.	5/4		

Draw these mixed fractions and write the improper fraction that means the same thing.

Mixed Fraction	Drawing	Improper Fraction
1. 3 ½		
2. 1 3/8		
3. 2 ¼		
4. 1 2/6		
5. 4 ¾		
6. 2 ½		

Using the cut-out fractions from Appendix B, show the following. Draw what you have shown. Then write the improper fraction.

Mixed Fraction	Drawing	Improper Fraction
2 ½		
1 ¼		
1 3/8		
2 1/3		
1 ½		

Using the cut-out fractions from Appendix B, show the following. Draw what you have shown. Then write the mixed fraction.

Improper Fraction	Drawing	Mixed Fraction
9/8		
3/2		
$\dfrac{10}{4}$		
$\dfrac{9}{6}$		
$\dfrac{8}{3}$		

Study the following.

A mixed fraction can be changed to an improper fraction by multiplying the denominator times the whole number, and then adding that to the numerator. Then this number is placed over the same denominator.

Example 1:

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

times

Three times two equals 6

plus

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

6 plus 1 equals 7

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

put the 7 over the same denominator of 3

7/3 is the improper fraction

Example 2:

plus

$$3 \quad \frac{2}{5}$$

times

5 times 3 plus 2 equals 17

17/5 is the improper fraction

Write 5 examples of changing mixed fractions to improper fractions.

Study the following.

To change an improper fraction to a mixed fraction, divide the denominator into the numerator. The whole number you get is the whole number part of the mixed fraction. The remainder goes over the same denominator, and that is the fraction part of the mixed number.

Example 1:

$\frac{7}{3}$ $\overset{\quad 2\quad}{3\overline{)7}}$ remainder 1 ⟶   2 1/3 is the mixed fraction

Example 2:

$\frac{14}{4}$ $\overset{\quad 3\quad}{4\overline{)14}}$ remainder 2 ⟶   3 2/4 is the mixed fraction

Write 5 examples of changing improper fractions to mixed fractions.

Change these mixed fractions to improper fractions.

3 2/5   7 1/8

4 2/7   8 ½

Change these improper fractions to mixed fractions.

32/7   12/5

20/6   18/7

Study the following.

Sometimes when you change an improper fraction to a mixed fraction, you divide and get no remainder.

Example: 9/3 = nine divided by 3 = 3

Solve showing both steps as follows.

$\dfrac{27}{3}$ = 27 divided by 3   = 9

$\dfrac{6}{3}$ =   =

$\dfrac{10}{5}$ =   =

$\dfrac{50}{10}$ =   =

$\dfrac{20}{4}$ =   =

$\dfrac{18}{6}$ =   =

$\dfrac{25}{5}$ =   =

Study the following.

A mixed fraction really means "and".

2 ¼ means 2 and ¼ , or 2 plus ¼.

It means you have <u>two</u> plus you have <u>¼</u>.

Fill in the table.

Fraction	Write using "and"	Write using "plus"
2 1/3		
8 1/7		
3 2/5		
6 4/9		
9 ½		
4 ¼		

Review of mixed and improper fractions.

Write the mixed and improper fractions that describe the pictures below.

Picture	Mixed Fraction	Improper Fraction