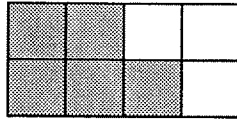


Week 4

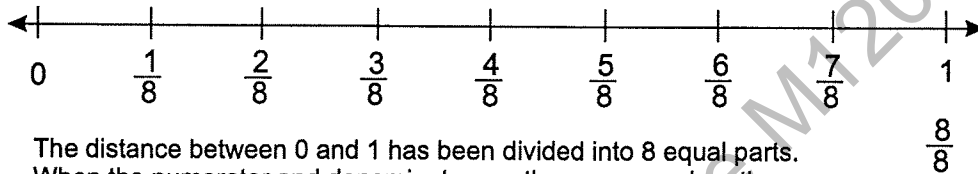
Lesson 1

A **fraction** is a part of a whole. The top number is the **numerator**. It tells how many parts are taken or used. The bottom number is the **denominator**. It tells how many equal parts the whole is divided into.



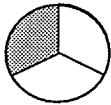
$\frac{5}{8}$ numerator
denominator

The fraction $\frac{5}{8}$ is showing 5 parts of 8 equal parts

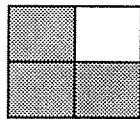


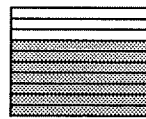
The distance between 0 and 1 has been divided into 8 equal parts. When the numerator and denominator are the same number, the fraction is equal to 1.

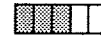
What is the fractional part of each shaded area?



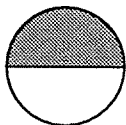
1. _____



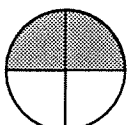




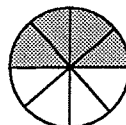
Fractions can be *equivalent* (equal) by *multiplying* the numerator and denominator by the **same** number. Equivalent fractions are the same amount with a different name.



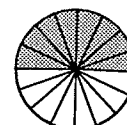
$\frac{1}{2}$



$\frac{2}{4}$



$\frac{4}{8}$



$\frac{8}{16}$

To make a **fraction** equivalent, multiply the numerator and the denominator by the same number. One **fraction** will be larger than the other, but as you can see from the pictures,

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

$$\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$$

$$\frac{1}{2} = \frac{1 \times 8}{2 \times 8} = \frac{8}{16}$$

Make the fractions equivalent by multiplying by 3.

2. $\frac{1}{4} = \frac{1 \times 3}{4 \times 3} = \frac{\quad}{\quad}$ $\frac{5}{7} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$ $\frac{3}{8} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$
 $\frac{2}{9} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$ $\frac{8}{11} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$ $\frac{6}{7} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

The = sign means that numbers are equal. To show that numbers are not equal use \neq . If the fractions are equal (equivalent) write =. If the fractions are not equal (unequivalent) write \neq .

3. $\frac{4}{5} \square \frac{8}{10}$ $\frac{1}{2} \square \frac{3}{7}$ $\frac{5}{15} \square \frac{15}{25}$ $\frac{6}{8} \square \frac{12}{15}$ $\frac{3}{7} \square \frac{9}{21}$ $\frac{2}{3} \square \frac{8}{12}$

Divide and check.

4. $3 \overline{)588}$ *check* $7 \overline{)2,286}$ *check*

Fill in the blanks using the number. The first one has been done for you.

5. **387,955,021**
- | | | |
|-------------------------|---------------------|------------------------|
| <u>7</u> millions | _____ thousands | _____ tens |
| _____ ones | _____ ten thousands | _____ hundred millions |
| _____ hundred thousands | _____ hundreds | _____ ten millions |

Solve quickly.

×	2	6	10	1	7	12	9	3	11	0	8	4	5
12													
6.	9												
	6												
	8												

Lesson 2

A **fraction** can be *reduced* or made smaller. To reduce a fraction, divide the *numerator* and *denominator* by the same number. The number must divide evenly into both the numerator and the denominator.

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

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

$$\frac{10}{12} = \frac{10 \div 2}{12 \div 2} = \frac{5}{6}$$

Reduce each fraction dividing by 2.

$$1. \quad \frac{2}{4} = \frac{2 \div 2}{4 \div 2} = \frac{\quad}{\quad}$$

$$\frac{8}{10} = \frac{8 \div \quad}{10 \div \quad} = \frac{\quad}{\quad}$$

$$\frac{6}{12} = \frac{6 \div \quad}{12 \div \quad} = \frac{\quad}{\quad}$$

$$\frac{14}{16} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{4}{8} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{10}{16} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

To reduce a fraction that is partially completed for you, you must ask yourself. "What number did they divide by to get the answer?" Here you must say "25 divided by what number gives you 5?" The answer is $25 \div 5 = 5$. Now you must divide 15 by 5. The answer is 3. 3 is written in the blank (numerator).

$$\frac{15}{25} = \frac{15 \div 5}{25 \div 5} = \frac{3}{5}$$

Find the missing numerators by using the same divisor used to reduce the denominator.

$$2. \quad \frac{3}{15} = \frac{3 \div \quad}{15 \div \quad} = \frac{\quad}{5}$$

$$\frac{7}{14} = \frac{7 \div \quad}{14 \div \quad} = \frac{\quad}{2}$$

$$\frac{10}{20} = \frac{10 \div \quad}{20 \div \quad} = \frac{\quad}{2}$$

$$\frac{8}{24} = \frac{8 \div \quad}{24 \div \quad} = \frac{\quad}{3}$$

$$\frac{6}{9} = \frac{6 \div \quad}{9 \div \quad} = \frac{\quad}{3}$$

$$\frac{4}{10} = \frac{4 \div \quad}{10 \div \quad} = \frac{\quad}{5}$$

Make equivalent fractions.

$$3. \quad \frac{3}{5} = \frac{\quad \times \quad}{\quad \times \quad} = \frac{\quad}{10}$$

$$\frac{6}{11} = \frac{\quad \times \quad}{\quad \times \quad} = \frac{18}{\quad}$$

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

$$\frac{2}{3} = \frac{\quad \times \quad}{\quad \times \quad} = \frac{\quad}{9}$$

$$\frac{8}{9} = \frac{\quad \times \quad}{\quad \times \quad} = \frac{\quad}{36}$$

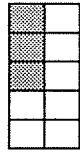
$$\frac{4}{7} = \frac{\quad \times \quad}{\quad \times \quad} = \frac{8}{\quad}$$

Write the fraction for each shape.

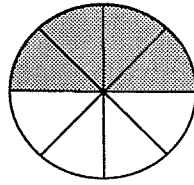
4.



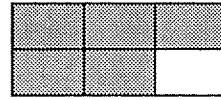
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Fill in the blanks with the correct sign (+, -, ×, ÷).

5. $72 \square 9 = 8$

$18 \square 7 = 11$

$7 \square 5 = 35$

$8 \square 8 = 16$

6. $45 \square 5 = 9$

$15 \square 3 = 18$

$6 \square 8 = 14$

$9 \square 2 = 7$

7. $12 \square 8 = 4$

$11 \square 9 = 99$

$3 \square 4 = 12$

$8 \square 5 = 13$

Divide and check.

check

8. $4 \overline{)6,757}$

Multiply.

9.
$$\begin{array}{r} 604 \\ \times 83 \\ \hline \end{array}$$

$$\begin{array}{r} 85 \\ \times 17 \\ \hline \end{array}$$

Write *yes* or *no* in the blanks.

10. A fraction is a whole number.

11. The denominator tells how many equal parts there are.

12. To check a division problem multiply the divisor times the dividend.

13. Equivalent means equal.

14. To reduce a fraction makes it larger.

15. To check a subtraction problem add the subtrahend and difference.

Solve. (Remember the shortcuts for multiplying and dividing with multiples of 10).

16. $600 \overline{)2,400}$

$30 \overline{)210}$

$$\begin{array}{r} 76 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ \times 600 \\ \hline \end{array}$$

$40 \overline{)320}$