Division

Unit 3

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 3 Notes**

**Division** is creating equal groups from a given amount.

You can use repeated subtraction to divide.

24 – 6 = 18 1 group of 6

18 - 6 = 12 1 group of 6

 12 - 6 = 6 1 group of 6

6 – 6 = 0 1 group of 6

24 ÷ 6 = 4 groups of 6

There are several ways to represent division.

10 ÷ 2 = 5 10/2 2)10 10

 2

 5

Quotient (answer)

Divisor

2)10

Dividend

Remember that between divisor and dividend the larger number has the larger name.

**Remainder**- the amount left over if a number does not divide exactly evenly.

10 ÷3 = 3 R1 XXX XXX XXX remainder X

**Division check step:**

 divisor X quotient + remainder

(3 X 3) + 1 = 10

# Long Division Steps - D M S B

(divide, multiply, subtract, bring it down)

4l 356

1. Divide 356 by 4.
2. Start with 3 divided by 4. It can’t be done, so now move 1 place value over. Divide 35 by 4.

4l356 4l356

1. The closest you can get to 35 divided by 4 (without going over) = 8.

 x 8

 4l356

1. Multiply 4X8 =32.

 x 8

 4l356

 32

1. Subtract 35-32=3.

 8

 4l356

 - 32

 3

1. Bring down the 6.

 8

 4l356

 - 32

 36

1. Divide 36 by 4.

 8

 4l356

 32

 36

36 divided by 4 = 9

 89

 4l356

 32

 36

8. Multiply 4X9=36.

 x 89

 4l356

 32

 36

 36

1. Subtract 36-36=0.

 89

 4l356

 32

 36

 36

 0

10. Since there is nothing to bring down, the problem is finished and there is 0 remainder.

11. If there was another number in the dividend, you would bring it down and repeat steps 7-9.

**Don’t forget to compare!**

The answer to the multiplication step must be smaller than the dividend.

The answer to the subtraction step must be smaller than the divisor.

**Check your work!**

1. Multiply the quotient (the answer) and the divisor. The product you get should match the dividend from the division problem.

 89 89

###  4l356 X 4

 36

 320

 356

If your product does not match the dividend, the division problem has an incorrect quotient (You did not get the correct division answer.)

D

Divide

M B

Multiply Bring it up/down

S

Subtract

Start at the top (D) and follow the circle counterclockwise. If you hit a number bringing it up, you must bring the number down. You must make a complete circle every time!

**Factor pairs-** A factor pair for a number is two whole numbers whose product is that number. A factor pair for 12 is 2 and 6.

**Prime number-** A number greater than one that has itself times 1 as its only factor pair. N x 1

The first eight prime numbers are 2,3,5,7,11,13, 17, and 19.

**Composite number-** A number greater than 1 that has more than one factor pair.

Example: 12 1 X 12 2 X 6 3 X 4