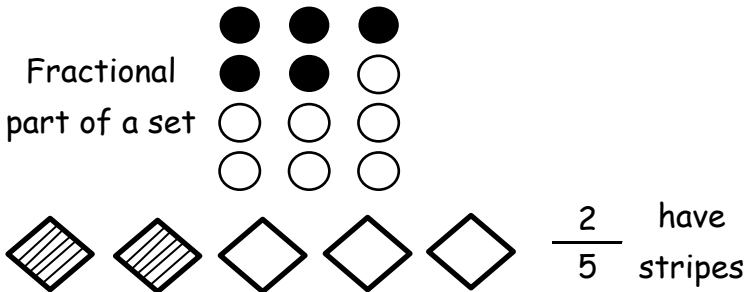
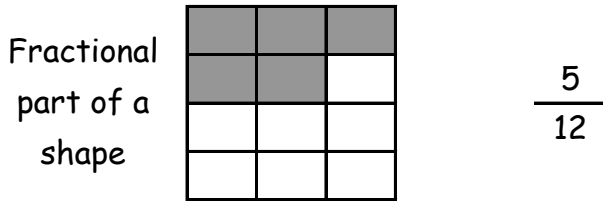


# 4th Grade Math Notes Common Core

## Basic Fraction

numerator - (the # of pieces shaded or unshaded)

denominator - (the total number of pieces)



**\*\*Hint: Zero can NEVER be a denominator.\*\***

## Decimal Fraction and Decimal

$$\frac{75}{100} = 0.75$$

~ To determine a fraction from a decimal put the decimal in fraction form and simplify.

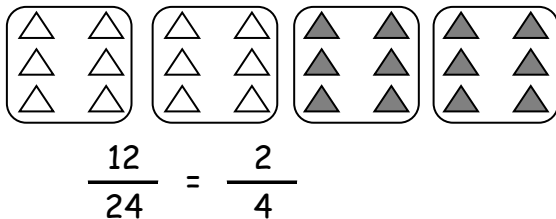
Ex.  $0.75 = \frac{75}{100} = \frac{3}{4}$

## Adding and Subtracting Decimals

$$\begin{array}{r} 2.25 \\ + 1.46 \\ \hline 3.71 \end{array} \qquad \begin{array}{r} 4.32 \\ - 1.64 \\ \hline 2.68 \end{array}$$

~ make sure when adding or subtracting that the decimal points are lined up

## Equivalent Fraction



The rule when converting fractions is that whatever you do to the top you must also do to the bottom.

$$\frac{12}{24} = \frac{2}{4} \text{ or } \frac{2}{4} = \frac{12}{24}$$

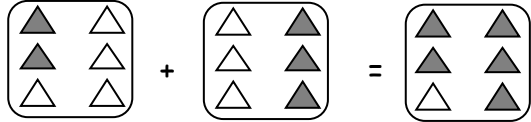
- ~ If your denominator is 24 and it changes to 4 you have to determine which operation was used.
- ~ You divided 24 by 6 which equals 4.
- ~ Since you divided 24 by 6, you also have to divide 12 by 6.
- ~ 12 divided by 6 equals 2

$$\frac{12}{24} = \frac{2}{4}$$

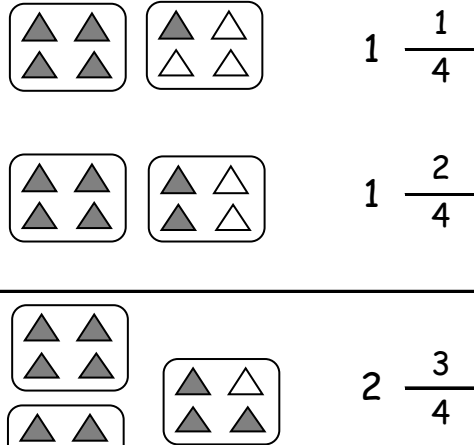
## Adding Fractions

~ For the numerators add straight across.

~ The denominator does not change.

Ex. 

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

Ex. 

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

\* Hint: Make sure you have a common denominator before you add.

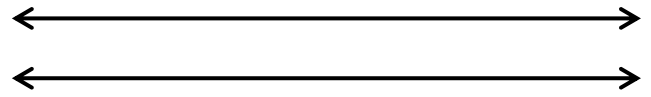
# 4th Grade Math Notes Common Core

## Partial Product

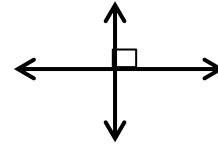
$$\begin{array}{r}
 23 \times 48 \\
 \begin{array}{|c|c|}
 \hline
 20 & 3 \\
 \hline
 \end{array} \\
 \begin{array}{|c|c|}
 \hline
 40 & 800 & 120 & 800 \\
 \hline
 8 & 160 & 24 & 120 \\
 \hline
 \end{array} \\
 \begin{array}{r}
 800 \\
 120 \\
 160 \\
 + 24 \\
 \hline
 1104
 \end{array}
 \end{array}$$

## Parallel, Perpendicular, & Symmetry

parallel lines - lines moving in the same direction that do not intersect

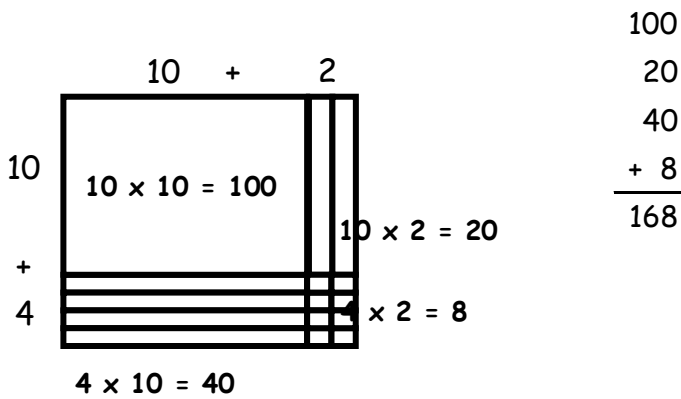


perpendicular lines - line that intersect at a 90° angle

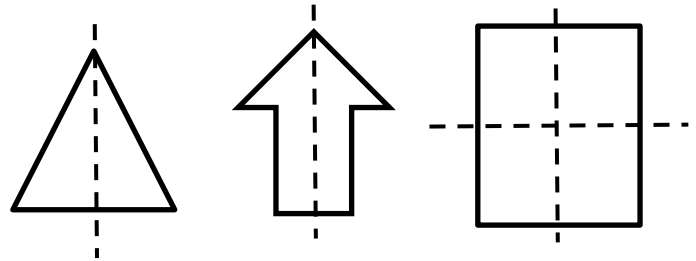


## Area Model of Multiplication

$$14 \times 12 = 168$$



## Symmetry

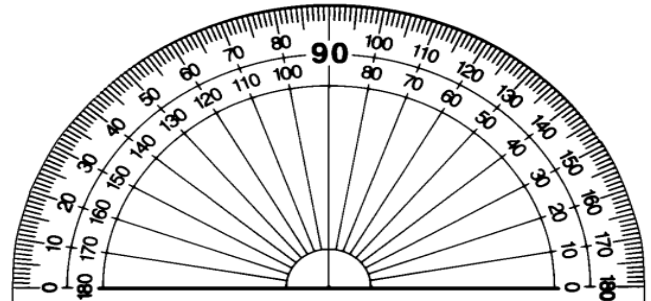


## Division - Partial Quotient

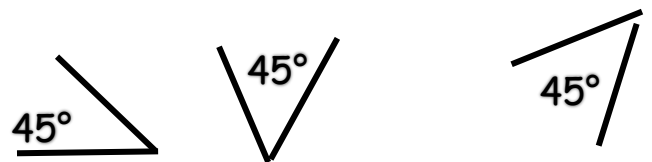
$$\begin{array}{r}
 3 \overline{) 369} \\
 \underline{- 300} \quad 100 \\
 69 \\
 \underline{- 60} \quad 20 \\
 9 \\
 \underline{- 9} \quad 3 \\
 0 \quad 123
 \end{array}$$

When we divide we can use our base 10 system to help us determine our quotient. Multiplying by 1, 10, 100 and 1,000 we can easily find large chunks to subtract from the dividend to find the total quotient.

## Measuring Angles



Angles are measured in degrees using a tool called a protractor. Angles can be seen in different directions.



Acute - an angle measuring less than 90°

Obtuse - an angle measuring more than 90°

Right - an angle measuring exactly 90°

Straight - an angle measuring 180°

# 4th Grade Math Notes Common Core

## Measurement Conversions

12 inches = 1 foot  
 3 feet = 1 yard  
 1,760 yard = 1 mile  
 5,280 feet = 1 mile  
 1 meter = 100 cm  
 1 kilometer = 1,000 meters

} distance

2,000 lb. = 1 T  
 16 oz. = 1 lb.  
 8 oz. =  $\frac{1}{2}$  lb.  
 4 oz. =  $\frac{1}{4}$  lb.  
 1000 g = 1 kg

} weight

## Perimeter

Perimeter is the distance around a figure.

Example:

A fence around a backyard or a frame around a picture.

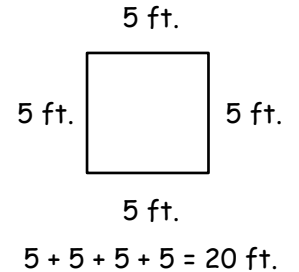
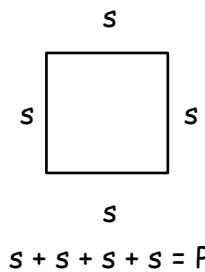
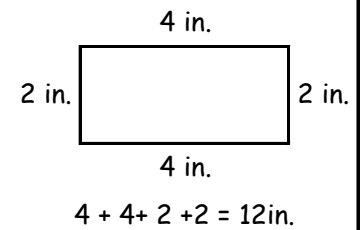
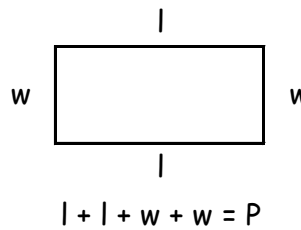
Key:

L = length

P = perimeter

W = width

S = side



## Rounding Rap

Yo, find that place value  
 Circle that digit  
 Move to the right, underline get it.  
 0-4 circle stays the same  
 5-9 add one is the game  
 Now flex your muscles like a hero  
 Digits to the right change to zero  
 All the other digits stay the same  
 Yo! You're the winner of the rounding  
 game!

## Area

Area is square units inside a given shape.

**Area = Length x Width**

**Area = Base x Height**

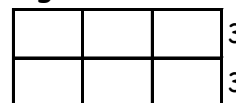
### Strategies to Determine Area

Counting:



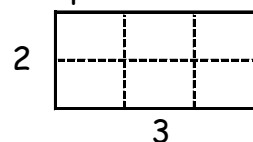
Area = 6 square units

Adding:



Area = 3 units + 3 units = 6 square units

Multiplication:



Area = 2 x 3 = 6 square units

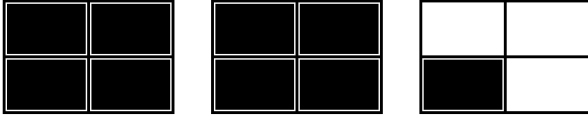
Hint: square units can be written units<sup>2</sup>

6 square cm = 6 cm<sup>2</sup>

# 4th Grade Math Notes Common Core

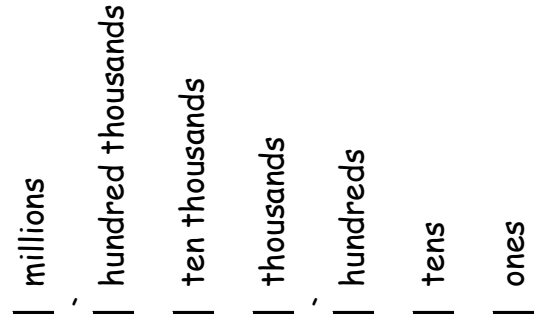
## Mixed Numbers

### Whole and Parts

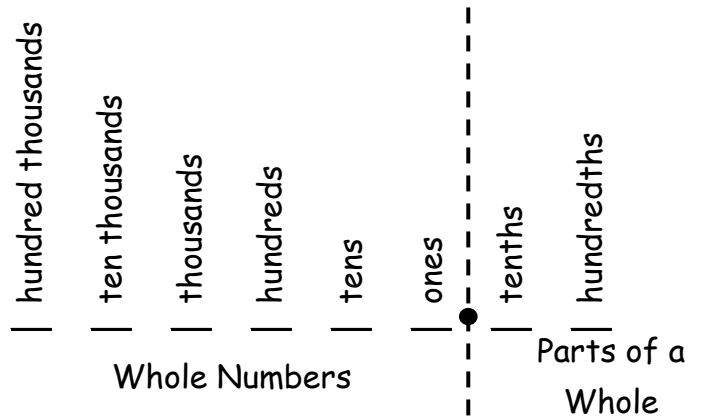


$$2 \frac{1}{4}$$

## Place Value



## Whole Numbers



## Adding & Subtracting Mixed Numbers

$$3 \frac{1}{4} + 2 \frac{2}{4} = 5 \frac{3}{4}$$

- Add or subtract the whole numbers
- Add or subtract the fractions

## Factors & Multiples

factors: The two numbers multiplied together to make a product

12: 1, 2, 3, 4, 6, 12

$$\begin{array}{r|l} 12 & \\ \hline 1 & 12 \\ 3 & 4 \\ 2 & 6 \end{array}$$

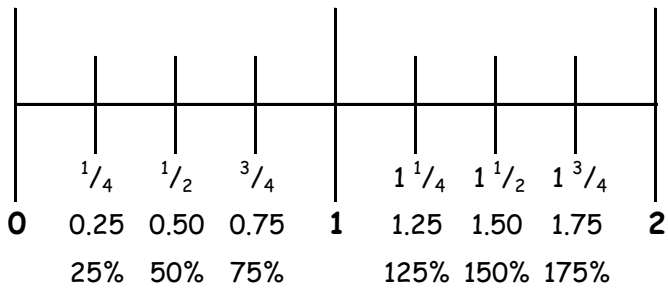
multiples: The product of two factors, similar to skip counting

multiples of 3:

3, 6, 9, 12, 15, 18, 21, 24

## 4th Grade Math Notes Common Core

### Number Line



### Model Drawing

1. Read the whole problem.
2. Write a complete sentence at the bottom of the problem. Leave a blank to fill in the answer.
3. Figure out who and/or what is involved and draw a unit bar or unit bars.
4. Reread the problem using one sentence at a time to solve it.
5. Do the computation.
6. Fill in the answer in the blank.
7. Check to make sure it is reasonable.

### Resources

[www.vectorkids.com/vkfractions](http://www.vectorkids.com/vkfractions)

<http://www.cobbk12.org/sites/literacy/math/math2.htm>

[http://acworthelem.typepad.com/ms\\_myers\\_math\\_class/4th.html](http://acworthelem.typepad.com/ms_myers_math_class/4th.html)

<http://aaamath.com/>

<http://www.coolmath.com/>

<http://www.mathcats.com/>

<http://www.aplusmath.com/>