

# Incoming 5<sup>th</sup> Grade Reference Sheet

## Place Value Chart

Hundred Billions	Ten Billions	Billions	Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths	Hundred Thousandths				
2	1	0	,	9	8	7	,	6	5	4	,	3	2	1	.	2	3	4	5	6



This Chart shows the place value of the number 210,987,654,321.23456  
This is how you say it.

Two hundred ten billion, nine hundred eighty seven million, six hundred fifty four thousand, three hundred twenty one, and twenty three thousand four hundred fifty six hundred thousandths.

## Number Forms

**Standard Form** – use numbers – 32.45

**Word Form** – say it and write it out –  
thirty-two and forty-five hundredths

**Expanded Form** – stretched out,  
usually with + and x –  
30 + 2 + 0.4 + 0.05 OR  
3 x 10 + 2 x 1 + 4 x 0.1 + 5 x 0.01

## Rounding Rules

Find the place you want to round to. Look to the number directly to the right of that number.

- If the number to the right is 0-4, keep the number the same
- If the number to the right is 5-9, the number in the place goes up 1

## Adding & Subtracting Whole Numbers

1) Line up the numbers so their places are lined up.

2) Start by adding the ones column and move left. Carry over or borrow if needed.

$$\begin{array}{r} 1 \\ 365 \\ + 27 \\ \hline 392 \end{array}$$

$$\begin{array}{r} 5 \quad 1 \\ 365 \\ - 27 \\ \hline 338 \end{array}$$

## Multiplying Whole Numbers

### Standard

$$\begin{array}{r} 46 \\ \times 7 \\ \hline 322 \end{array}$$

### Partial Product

$$\begin{array}{r} 46 \\ \times 7 \\ \hline 1 \quad 42 \\ + 280 \\ \hline 322 \end{array}$$

$$\begin{array}{r} 14 \\ 46 \\ \times 37 \\ \hline 1322 \\ + 1380 \\ \hline 1702 \end{array}$$

$$\begin{array}{r} 46 \\ \times 37 \\ \hline 42 \\ 280 \\ 180 \\ + 1200 \\ \hline 1702 \end{array}$$

## KEY WORDS

### Addition

sum  
altogether  
more than  
increased by

### Subtraction

difference  
how much more  
how much left  
decreased by

### Multiplication

product  
twice  
double

### Division

quotient  
split evenly  
shared equally  
half

## Dividing Whole Numbers

Dividend ÷ Divisor = Quotient

The **dividend** is the first one **in the house** locking the **door on the divisor!**

Steps:

**D** +  
**M** ×  
**S** -  
**B** ↓



Repeat if needed

$$\begin{array}{r} 154 \\ 3 \overline{)462} \\ \underline{-3} \phantom{0} \phantom{0} \\ 16 \phantom{0} \\ \underline{-15} \phantom{0} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

## FRACTIONS

Adding/Subtracting with like denominators

- Add/subtract numerators
- leave denominators the same

$$\frac{5}{9} + \frac{2}{9} = \frac{7}{9}$$

Changing to a decimal/fraction.

Read the decimal the proper way – write it as a fraction. OR Read the fraction and write the decimal using place value.

$$0.7 \text{ is "seven tenths"} = \frac{7}{10}$$

Equivalent Fractions

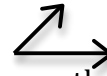
Multiply or divide the numerator AND denominator by the same number

$$\frac{7}{10} \times \frac{10}{10} = \frac{70}{100}$$

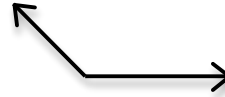
## Geometry

### ANGLES

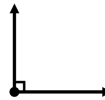
Acute – less than 90°



Obtuse – more than 90° but less than 180°



Right – exactly 90°



### LINES

Line



Line Segment



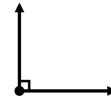
Ray



Parallel  
(don't cross)



Perpendicular  
(make a right angle)



### AREA & PERIMETER

Perimeter is the distance around a figure (add up all the sides)

Area is how much space a figure takes up (how many squares inside) – multiply the length by the width

### Comparing Numbers

Decimals – write the decimal out the same number of places (add zeroes if needed)

- Compare the new numbers that are written  $1.21 > 1.10$

Fractions – Change fractions to a common denominator OR compare to a benchmark fraction (0,  $\frac{1}{2}$ , or 1)