

1. How to:

Add decimals	Line up decimal points, add, bring decimal point down
Subtract decimals	Line up decimal points, zeros in empty places, subtract, decimal down
Multiply decimals	Multiply, count decimal places, move decimal count to left
Divide decimals	Move divisor decimal point to right, move dividend decimal to right the same number of places, bring decimal up, divide

2. Know the names and parts of a fraction

Numerator	The number on top of fraction bar
Denominator	The number on bottom of fraction bar
Improper fraction	Fraction with numerator larger or equal to denominator
Mixed Number	A whole number with a fraction

3. Divisibility rules

2	Number is even
3	Sum of digits divisible by 3
4	Last two digits divisible by 4
5	Ones digit a 5 or 0
6	Divisible by 2 and 3
9	Sum of digits divisible by 9
10	Ones digit a 0

4. How to:

LCM	Least common multiple	Used to find least common denominator
GCF	Greatest common factor	Used to simplify fractions
Simplify fractions		
Change improper fractions to mixed numbers		
Change mixed number to improper fractions		
Find common denominators		
Add fractions		Find common denominators then add
Subtract fractions		Find common denominators then subtract
Multiply fractions		Change to fraction, cancel then N x N and D x D, simplify
Divide fractions		Change to fraction, Invert divisor, cancel, and multiply
Change a fraction to a decimal		Divide numerator by denominator
Change a decimal to a fraction		Name decimal and then write it
Change a decimal to a percent		Move decimal two places to the left
Change a percent to a decimal		Move the decimal two places to the right

5.	$\frac{1}{2} = .50 = 50\%$	$\frac{1}{2}$ of something is the something divided by 2, multiply by 1
	$\frac{1}{4} = .25 = 25\%$	$\frac{1}{4}$ of something is the something divided by 4, multiply by 1
	$\frac{3}{4} = .75 = 75\%$	$\frac{3}{4}$ of something is the something divided by 4, multiply by 3

6. $1/5 = .20 = 20\%$ $1/5$ of something is the something divided by 5, multiply by 1
 $2/5 = .40 = 40\%$ $2/5$ of something is the something divided by 5 times 2
 $3/5 = .60 = 60\%$ $3/5$ of something is the something divided by 5 times 3
 $4/5 = .80 = 80\%$ $4/5$ of something is the something divided by 5 times 4

7. $1/8 = .125 = 12.5\%$ or $12\frac{1}{2}\%$ $1/8$ of something is the something divided by 8 times 1
 $3/8 = .375 = 37.5\%$ or $37\frac{1}{2}\%$ etc.
 $5/8 = .625 = 62.5\%$ or $62\frac{1}{2}\%$
 $7/8 = .875 = 87.5\%$ or $87\frac{1}{2}\%$

8. $1/3 = .333... = 33\frac{1}{3}\%$
 $2/3 = .666... = 66\frac{2}{3}\%$

9. of The word “**of**” often means you need to multiply.

Example: Find $3/8$ **of** 24.

$$\frac{3}{8} \times \frac{24}{1} = 9$$

Example: What is 25% **of** 28?

$$.25 \times 28 = 7$$

sum The word “**sum**” means to add

total The word “**total**” means the answer to an addition problem

difference The word “**difference**” means the answer to a subtraction problem

quotient The word “**quotient**” means the answer to a division problem

10. **Common Prime Numbers:**

What is a prime number? A number evenly divisible only by itself and 1

Primes between 0 and 50 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47

11. **Formulas** See “Common Math Formulas” sheet.

12. Important Metric Names, Values, and Abbreviations

Number	Prefix	Symbol	Number	Prefix	Symbol
10^1	deka-	da	10^{-1}	deci-	d
10^2	hecto-	h	10^{-2}	centi-	c
10^3	kilo-	k	10^{-3}	milli-	m
10^6	mega-	M	10^{-6}	micro-	μ
10^9	giga-	G	10^{-9}	nano-	n
10^{12}	tera-	T	10^{-12}	pico-	p
10^{15}	peta-	P	10^{-15}	femto-	f
10^{18}	exa-	E	10^{-18}	atto-	a
10^{21}	zeta-	Z	10^{-21}	zepto-	z
10^{24}	yotta-	Y	10^{-24}	yocto-	y

We will learn the names for
 10^1 to 10^{15}

And

10^{-1} to 10^{-6}

13. Important Math Units and Conversions**Units of Length (English)**

inch	in	$12'' = 1$ foot	
foot	ft	$3' = 1$ yard	
yard	yd	1 yd = 3 feet	1760 yds = 1 mi
mile	mi	$5,280$ ft = 1 mile	

Units of Length (Metric)

millimeter	mm	$1,000$ mm = 1 meter or 1 m
centimeter	cm	100 c = 1 meter or 1 m
meter	m	$1,000$ m = 1 kilometer or 1 km
kilometer	km	1 km = 1000 m

Units of Mass (English)

ounce	oz	16 oz = 1 lb
pound	lb	1 lb = 16 ounces
ton	t	1 t = 2000 lb

Units of Mass (Metric) examples:

milligram	mg	100 mg = 1 gr
gram	g	1 g = 100 mg
kilogram	kg	1 kg = 1000 g
metric ton	mt	$1,000$ kg = 1 mt

Time

60 seconds = 1 minute	365 days = 1 year
60 minutes = 1 hour	366 days = 1 leap year
24 hours = 1 day	