

STATS & MATH Prep Cheat Sheet

by Ktroch via cheatography.com/144298/cs/30968/

BEDMAS

• Brackets • Exponents • Division • Multiplication • Addition • Subtraction

Brackets Operations within brackets should be done first if there is two sets of brackets, solve the inside brackets then the outside. **Exponents** refer to squared numbers and squared roots - A number that amplifies another number Ex: 3³ OR ₹

Place Value

Tens Ones. Tenths Hundredths Thousandths Ten Thousandths Hundred Thousandths

Calculator keys

Squared x ²	Exponent x^x	Negative (-) or +/-
square Root	Root shift	Fractions -
$\sqrt{\Box}$	+ x [□]	- /_

Brackets (OR)

Buttons will vary depending on your calculator

Squared Numbers and Square Roots

Squared Numbers - Multiplying a number by itself

Square Roots - Determining which number multiplied by itself equals the number under the square root sign.

Fractions: Part of a whole.

Numerator is the top	Denominator
number	is the bottom
Multiplying Fractions	Dividing
multiply the numerators	invert the
and then multiply the	second
denominators , then	fraction and
simplify	multiply.

Adding/Subtracting Fractions

If the denominator is the same, add or subtract the numerators.

If the denominator is different then find the least common multiple between the denominators and use that for the denominator.

Multiply both numerator and denominator by the value needed to obtain the common denominator.

Denominator is how many there are as a whole. Numerator is how many there are FROM the denominator.

Probability

Certain 1:1, 100%,	Likely 0% and 100%
1, 1/1 chance	
Unlikely 0 to 1	Impossible 0:1, 0%,
	0 0/1 chance

Formal probability rule:

All range between 0 and 1 (or 0% and 100%) always

Statistics

Statistics To help find patterns and relationships in data.

Data Information with context

Quantitative Variable Results in numbers with units where taking an average makes sense. Charts, graphs, plots spread = smallest value to biggest value

Categorial Variables Results in information placed into groups or categories. (the count ∻ the total * 100 = the %

Integer

Integers- are whole numbers *(not decimals)* positive, negative, or zero *Example*: 4 , -7 , 0

Integers on a number line The larger the number, positive or negative the **further** it is away from zero.

Absolute value of a number: is the distance away from zero. To represent the absolute value of a number, you write it like this |5|

Integers (cont)

Adding

When you are adding **Positive** integers you move **right** on the number line.

$$3 + 4 = 7 \Rightarrow 3 \rightarrow \rightarrow \rightarrow 7$$

When adding Negative numbers , you move to the left on the number line*

Subtracting

Subtraction is opposite of addition. Subtract a positive number count to the **left**. Subtract a negative number and count to the **right**.

Multiplying & Divinding

2 positive integers = A positive

2 negative integers = A positive.

2 integers with mixed signs = A negative.

Proportions and Ratios

Ratio: A way to describe the relationship between two numbers. *2:1 OR 2 to 1*

Proportions A way to describe the relationship between two numbers using a ratio or decimal.

Equivalent Ratios Look different but equal the same. *3:6=0.5 4/8 =0.5*

Scientific notation

230000000.00 = 2.3	.000000012 = 1.2 x
x 10 ⁸	10 ⁻⁸

Scientific notation is a way of writing really big or really small numbers Using the base number 10. When doing a small number the exponent is negative



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Scientific notation

230000000.00 = 2.3 .000000012 = 1.2 x $x 10^{8}$ 10⁻⁸

Scientific notation is a way of writing really big or really small numbers Using the base number 10. When doing a small number the exponent is negative

Calculator



Use this question to see if your calculator follows the order of operations.

25 - 3x6 = ?

If the answer 7, then it DOES follow the order of operations.

If the answer 132, then it does NOT.

Decimals are like fractions, they are part of

To turn a fraction into a decimal, divide the

To turn a decimal in to a fraction, place the decimal over its place value and then simplify. (find the common denominator with factoring.)

points do you want to keep?

If the number is less than 5 keep it and drop

If the number is greater than or equal to 5 then add 1 to the number and drop the remaining to the right.

Algebra Terms

Letters are used to represent missing numbers in an equation.

Constants Are the numbers in the equation.

Variables Are the letters in the equation.

Coefficient A number that is directly followed by a variable. Grouped like this we are to multiply

Mean and Median

Mean y=∑y/n

Mean = Average, Add all values and then divide by the number of values. x or a y with a bar over it.

Median Odd The center, equal amount of units

on each side First sort smallest to biggest then

use the formula, Odd Median-=Middle value, in position. Even Median=Average of two middle numbers, average of values in

position

(n+1/2)

Even

(n/2)and

(n/2+1)

Decimals

a whole.

numerator by the denominator.

Decimal Rounding: How many decimal

Look at the number to the right of the value. the rest to the right.

