

Numbers, Sequences, Factors

Integers:	$\dots, -3, -2, -1, 0, 1, 2, 3, \dots$
Rationals:	fractions, that is, anything expressable as a ratio of integers
Reals:	integers plus rationals plus special numbers such as $\sqrt{2}$, $\sqrt{3}$ and
Order Of Operations:	PEMDAS (Parentheses / Exponents / Multiply / Divide / Add / Subtract)
Arithmetic Sequences:	each term is equal to the previous term plus d Sequence: $t_1, t_1 + d, t_1 + 2d, \dots$ Example: $d = 4$ and $t_1 = 3$ gives the sequence 3, 7, 11, 15, $\dots$
Geometric Sequences:	each term is equal to the previous term times r Sequence: $t_1, t_1 \cdot r, t_1 \cdot r^2, \dots$ Example: $r = 2$ and $t_1 = 3$ gives the sequence 3, 6, 12, 24, $\dots$
Factors:	the factors of a number divide into that number without a remainder
Multiples:	the multiples of a number are divisible by that number without a remainder
Percents:	use the following formula to find part, whole, or percent part = percent $100 \times$ whole

Averages, Counting, Statistics, Probability

average	average = $\frac{\text{sum of terms}}{\text{number of terms}}$
average speed	$\frac{\text{total distance}}{\text{total time}}$
sum	Average $\times$ number of terms
mode	value in the list that appears most often
median	middle value in the list (which must be sorted) Example: median of {3, 10, 9, 27, 50} = 10 Example: median of {3, 9, 10, 27} = $\frac{(9 + 10)}{2} = 9.5$
Fundamental Counting Principle:	If an event can happen in N ways, and another, independent event can happen in M ways, then both events together can happen in $N \times M$ ways.
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