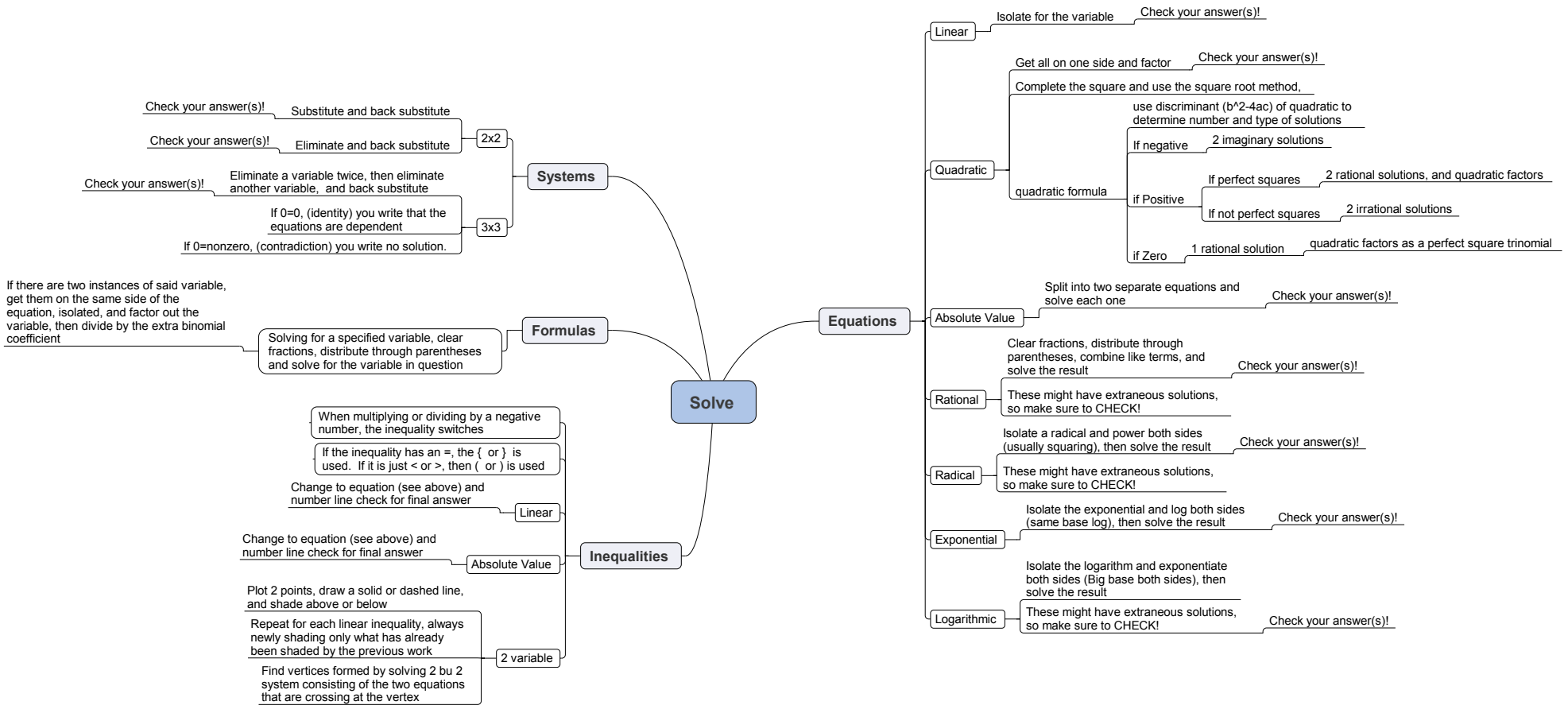
Solve
Equations
Linear
Isolate for the variable
Check your answer(s)!
Quadratic
Get all on one side and factor
Check your answer(s)!
Complete the square and use the square root method,
quadratic formula
use discriminant (b^2-4ac) of quadratic to determine number and type of solutions
If negative
2 imaginary solutions
if Positive
If perfect squares
2 rational solutions, and quadratic factors
If not perfect squares
2 irrational solutions
if Zero
1 rational solution
quadratic factors as a perfect square trinomial
Absolute Value
Split into two separate equations and solve each one
Check your answer(s)!
Rational
Clear fractions, distribute through parentheses, combine like terms, and solve the result
Check your answer(s)!
These might have extraneous solutions, so make sure to CHECK!
Radical
Isolate a radical and power both sides (usually squaring), then solve the result
Check your answer(s)!
These might have extraneous solutions, so make sure to CHECK!
Exponential
Isolate the exponential and log both sides (same base log), then solve the result
Check your answer(s)!
Logarithmic
Isolate the logarithm and exponentiate both sides (Big base both sides), then solve the result
These might have extraneous solutions, so make sure to CHECK!
Check your answer(s)!
Systems
2x2
Check your answer(s)!
Substitute and back substitute
Check your answer(s)!
Eliminate and back substitute
3x3
Eliminate a variable twice, then eliminate another variable, and back substitute
Check your answer(s)!
If 0=0, (identity) you write that the equations are dependent
If 0=nonzero, (contradiction) you write no solution.
Formulas
Solving for a specified variable, clear fractions, distribute through parentheses and solve for the variable in question
If there are two instances of said variable, get them on the same side of the equation, isolated, and factor out the variable, then divide by the extra binomial coefficient
Inequalities
When multiplying or dividing by a negative number, the inequality switches
If the inequality has an =, the { or } is used. If it is just < or >, then (or) is used
Linear
Change to equation (see above) and number line check for final answer
Absolute Value
Change to equation (see above) and number line check for final answer
2 variable
Plot 2 points, draw a solid or dashed line, and shade above or below
Repeat for each linear inequality, always newly shading only what has already been shaded by the previous work
Find vertices formed by solving 2 bu 2 system consisting of the two equations that are crossing at the vertex