

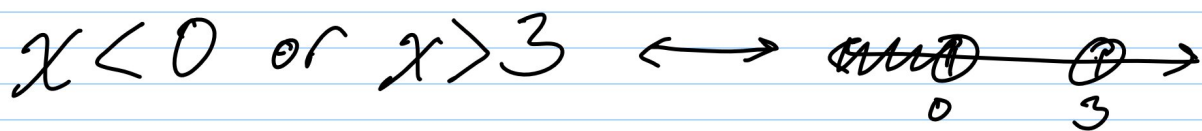
Other Stuff

- Exponent Properties
- Simplifying Radicals
- Interval Notation
- Characteristics of Graphs
 - Min/Max
 - Inc/Dec/Const
 - Pos/Neg
 - End Behavior

$$x \geq 5 \iff [5, \infty)$$


$$\iff (-2, 5]$$

$$\iff -2 < x \leq 5$$


$$\iff$$

$$(-\infty, 0) \cup (3, \infty)$$

- Arithmetic Sequences

$$a_n = a_1 + (n-1)d$$

Solving Inequalities

* Multiply/Divide by a negative
↳ Flip the sign

• Graphing

- Open or closed circle
(Dotted or solid line)
- Shade left or right
(down) (up)

Transformations

$$y = a(x \pm h) \pm k$$

$a > 1$ stretch
 $0 < a < 1$ compress

$+k \rightarrow$ shift up
 $-k \rightarrow$ shift down

$+h \rightarrow \text{shift left}$
 $-h \rightarrow \text{shift right}$

Systems

- Elimination and Substitution
-

Matrices

- Dimensions: rows x columns
- $a_{32} \rightarrow$ element in row 3,
column 2

- Multiply $4 \cdot \begin{bmatrix} 2 \\ 3 \end{bmatrix} = \begin{bmatrix} 8 \\ 12 \end{bmatrix}$

- Adding/Sub - Have to be same size

- Equal Matrices

$$\begin{bmatrix} 2x & 7 \end{bmatrix} = \begin{bmatrix} 10 & y \end{bmatrix}$$

$$2x = 10$$

$$7 = y$$

$$\boxed{x = 5}$$

$$\boxed{y = 7}$$

Quadratics

- Standard Form

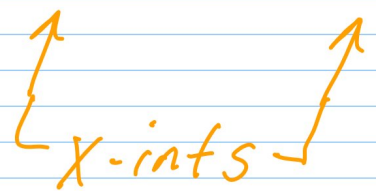
$$y = Ax^2 + Bx + C$$

- A, B, C are integers
- C is y -intercept

- $-\frac{B}{2A}$ is Axis of Symmetry and x -value of vertex
- y -value of vertex, plug in AoS.
- If $A > 0 \rightarrow$ opens up
 $A < 0 \rightarrow$ opens down

* Factored Form

$$y = a(x-p)(x-q)$$


 $x\text{-ints}$

- * Factored to Standard $\rightarrow$ use FOIL.

Matrix Determinant

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix} = ad - bc$$