39. $-\frac{2}{3}|x+5| \geq -8$

$\cdot -\frac{3}{2}$ $\cdot -\frac{3}{2}$

$|x+5| \leq 12$

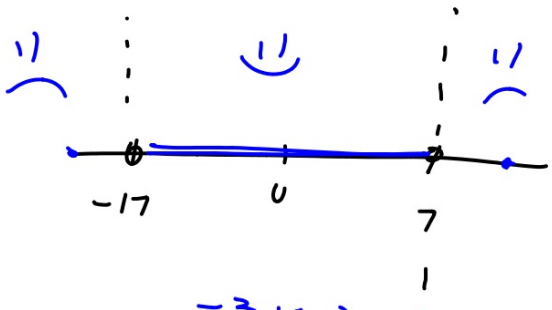
$x+5=12$ $\quad -5 \quad -5$

$x=7$

$x+5=-12$ $\quad -5 \quad -5$

$x=-17$

$-17 \leq x \leq 7$



$-\frac{2}{3}|5| \geq -8$

$-\frac{10}{3} \geq -8$

$-\frac{2}{3}|-15| \geq -8$

$-\frac{2}{3} \cdot 15 \geq -8$

$-10 \geq -8$

$-\frac{2}{3} \cdot 15 \geq -8$

$-10 \geq -8$

Trig 3.3
Graph polynomial, absolute value, and radical inequalities
Solve absolute value inequalities
Determine solutions to inequalities

families of functions/ parent graphs (3.2)

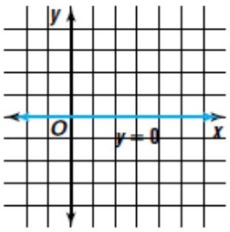
inequality

boundary

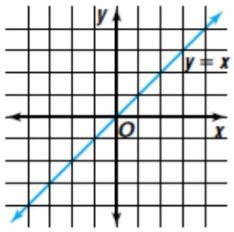
test point

Graphing calc stuff

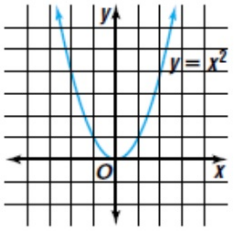
constant function

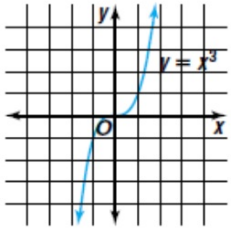


identity function

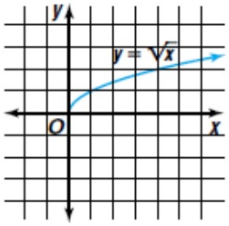


polynomial functions

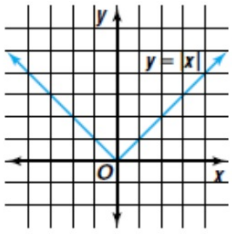




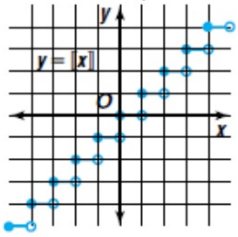
square root function



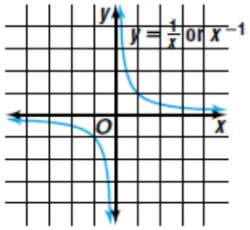
absolute value function



greatest integer function

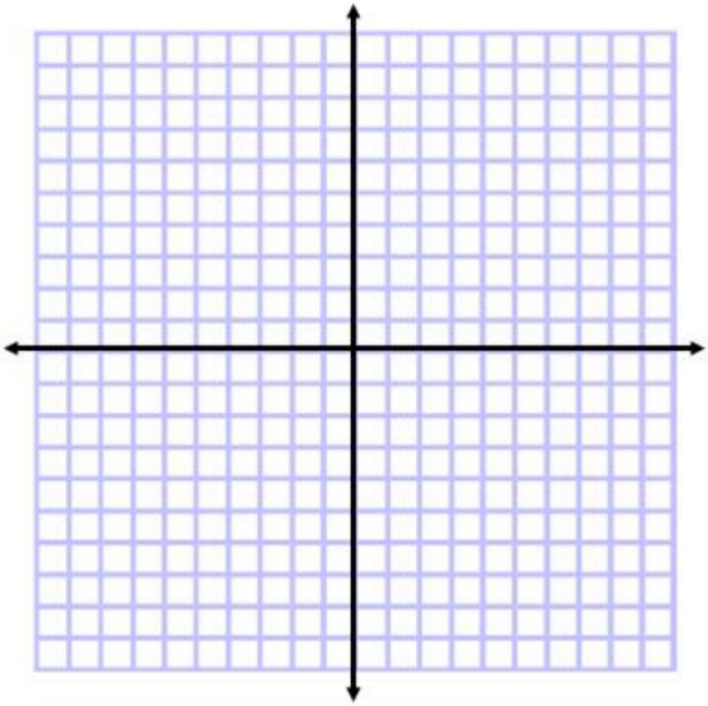


rational function



Whiteboards: boundary open or closed?

3 Graph $y > 3 - |x + 2|$.



Graph each inequality.

7. $y \leq (x + 1)^3$

8. $y \leq 2(x - 3)^2$

9. $y > -|x - 4| + 2$

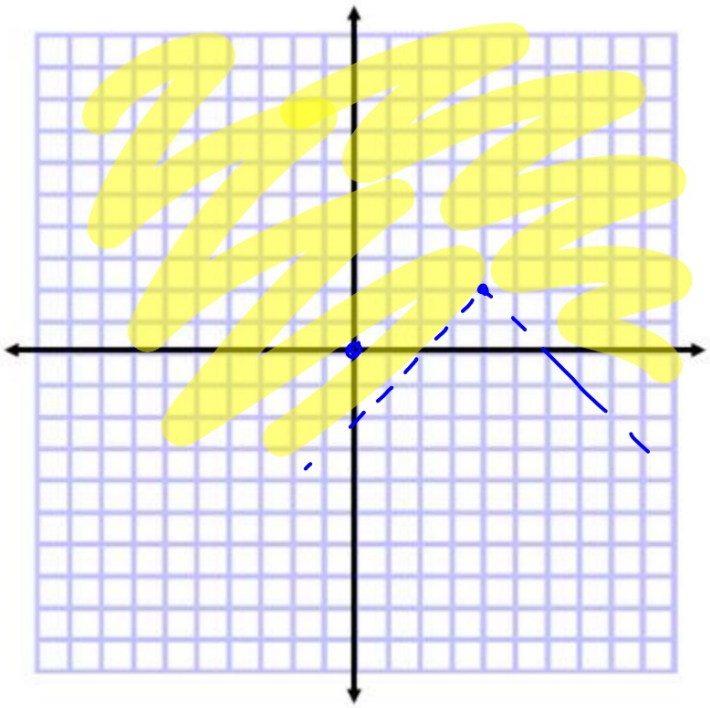
$y = -|x-4| + 2$

4

$0 > -|-4| + 2$

$0 > -4 + 2$

$0 > -2$



$2|3|-6>12$

$6-6>12$

$2|x+3|-6>12$

$+6 \quad +6$

$\frac{2}{2}|x+3| > \frac{18}{2}$

$|x+3| > 9$

$x+3=-9$ $\quad -3 \quad -3$

$x=-12$

$x+3=9$ $\quad -3 \quad -3$

$x=6$

$2|13|-6>12$

$26-6>12$

$2|-17|-6>12$

$2 \cdot 17-6>12$

$28>12$