

Trig 3.3

Graph polynomial, absolute value, and radical inequalities

Solve absolute value inequalities

Determine solutions to inequalities

graphically & algebraically

Quiz 3.1-3.2 Thurs.

families of functions/ parent graphs (3.2)

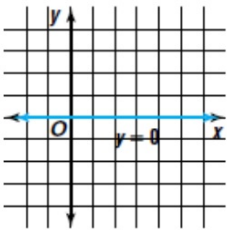
continuous functions only

inequality

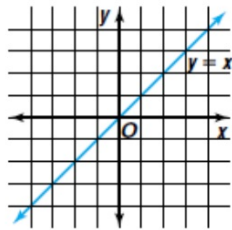
boundary

test point

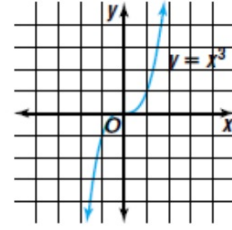
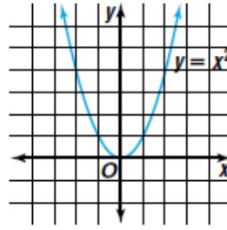
constant function



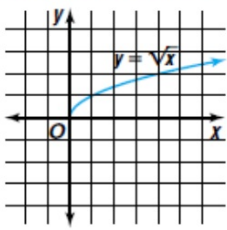
identity function



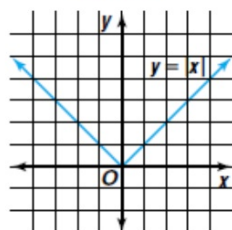
polynomial functions



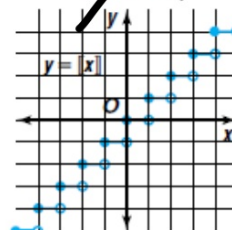
square root function



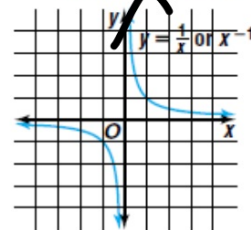
absolute value function



~~greatest integer function~~



~~rational function~~



< > for continuous functions only

How is this problem different?

Where is one graph above/below the other?

4 Solve $|x - 2| - 5 < 4$.

$$-7 < x < 11$$

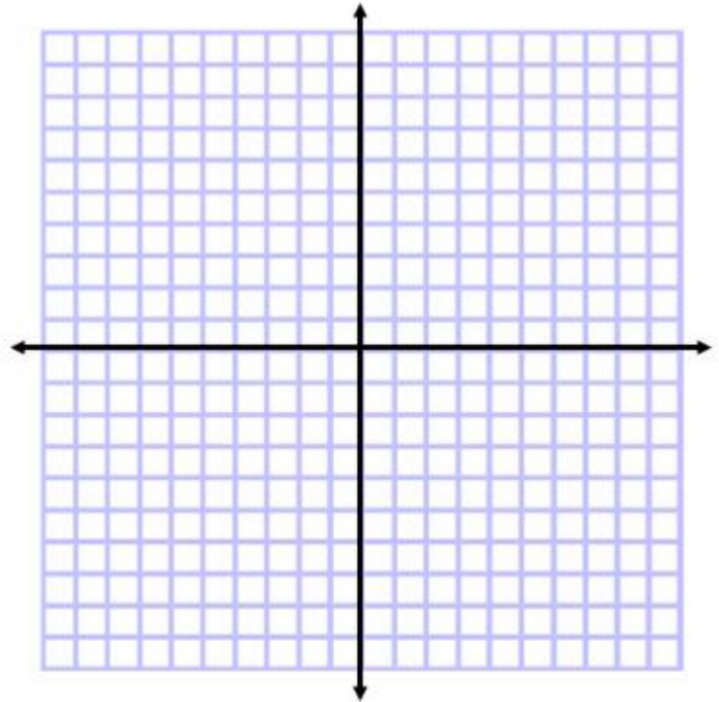
Desmos

y=

y=

Solve by graphing

What x-values are involved?
(estimate?)



WB
3.3

$$|13| - 5 < 4$$

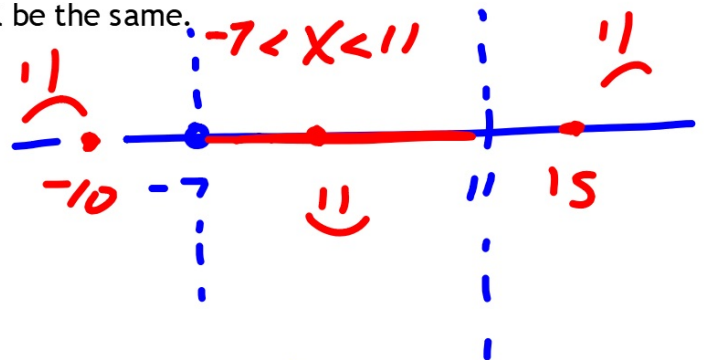
solve using a graph, solve using algebra
Methods are different, but answers will be the same.

4 Solve $|x - 2| - 5 < 4$.

$$|x - 2| = 9$$

$$\begin{array}{r} x - 2 = -9 \\ + 2 \quad + 2 \\ \hline x = -7 \end{array}$$

$$\begin{array}{r} x - 2 = 9 \\ + 2 \quad + 2 \\ \hline x = 11 \end{array}$$

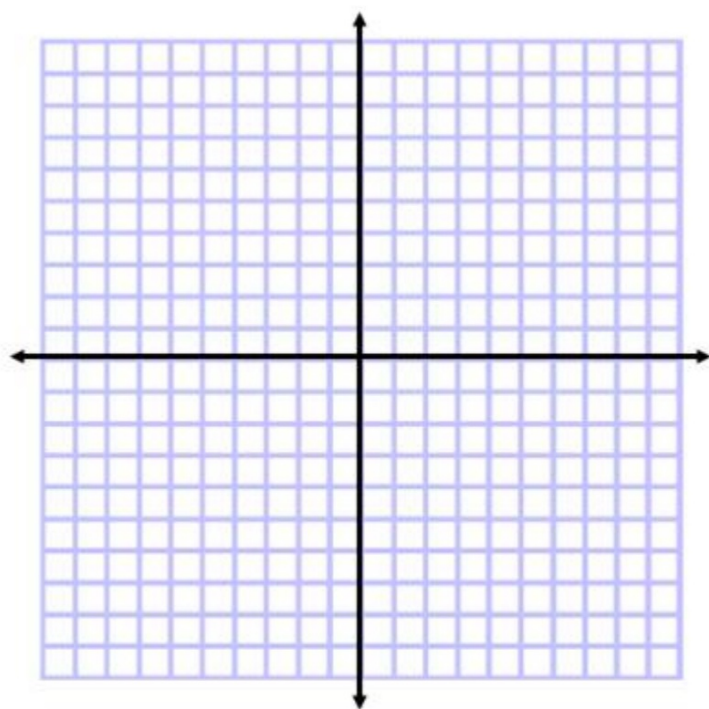


Graph each inequality.

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

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

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



What is the difference between...

