Algebra **REVIEW 6.4 – pg. 396** Name Key

Hour _____

SECTION 6.4

Solve the given inequality. Graph your solution.

$x + 4 < 7$ or $2x - 5 > 3$

$-4 \quad -4$ $\quad +5 \quad +5$

$x < 3$ $\quad \frac{2x}{2} > \frac{8}{2}$

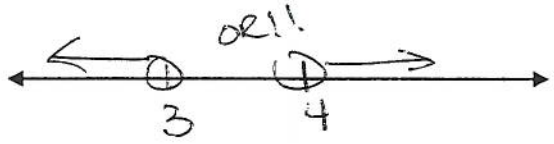
$x > 4$

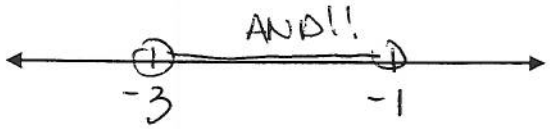
$3x + 2 > -7$ and $4x - 1 < -5$

$-2 \quad -2$ $\quad +1 \quad +1$

$\frac{3x}{3} > \frac{-9}{3}$ $\quad \frac{4x}{4} < \frac{-4}{4}$

$x > -3$ $\quad x < -1$





The smallest praying mantis is 0.4 inch in length. The largest is 6 inches. Write and graph a compound inequality that describes the possible lengths *L* of a praying mantis.

$.4 \leq L \leq 6$

SECTION 6.5

Solve the equation, if possible.

$|x - 4| = 13$

$x - 4 = 13 \quad x - 4 = -13$

$x = 17 \quad x = -9$

$|x + 2| + 7 = 3$

$-7 \quad -7$

$|x + 2| = -4$

can't happen

$|2x - 6| + 4 = 20$

$-4 \quad -4$

$|2x - 6| = 16$

$2x - 6 = 16 \quad 2x - 6 = -16$

$2x = 22 \quad 2x = -10$

$x = 11 \quad x = -5$

$|x| = 5$

$x = 5, -5$

$|x - 8| = 24$

$x - 8 = 24 \quad x - 8 = -24$

$x = 32 \quad x = -16$

$-2|x - 5| + 7 = 12$

$-7 \quad -7$

$-2|x - 5| = 5$

$|x - 5| = -\frac{5}{2}$

can't happen

A pattern for a 26 - inch skirt allows for an absolute deviation of 1.5 inches. Find the minimum and maximum skirt lengths that can be made from the pattern.

Min = 24.5 in

Max = 27.5 in

SECTION 6.6

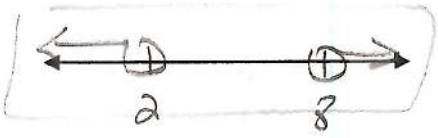
Solve the inequality. Graph your solution.

$|x - 5| > 3$

$x - 5 > 3$ $\quad$ $x - 5 < -3$

$+5 \quad +5 \quad +5 \quad +5$

$x > 8 \quad x < 2$



$|x + 3| + 6 \leq 8$

$-6 \quad -6$

$|x+3| \leq 2$

$x+3 \leq 2$ $\quad$ $x+3 \geq -2$

$-3 \quad -3 \quad -3 \quad -3$

$x \leq -1 \quad x \geq -5$

$-5 \leq x \leq -1$

$4|3x + 7| - 5 \geq 7$

$+5 \quad +5$

$\frac{4|3x+7|}{4} \geq \frac{12}{4}$

$|3x+7| \geq 3$

$3x+7 \geq 3$ $\quad$ $3x+7 \leq -3$

$-7 \quad -7 \quad -7 \quad -7$

$\frac{3x}{3} \geq \frac{-4}{3}$ $\quad$ $\frac{3x}{3} \leq \frac{-10}{3}$

$x \geq -4/3 \quad x \leq -10/3$

You are preheating an oven to 350 degrees F before you bake muffins. Several minutes later, the oven thermometer reads 346 F. The measured temperature has an absolute deviation of at most 2 F. Write an inequality to find the possible temperatures in the oven. Solve for the possible ~~times~~ temp. t

$346 - 2 = 344 \quad 346 + 2 = 348$

Inequality $344 \leq t \leq 348$

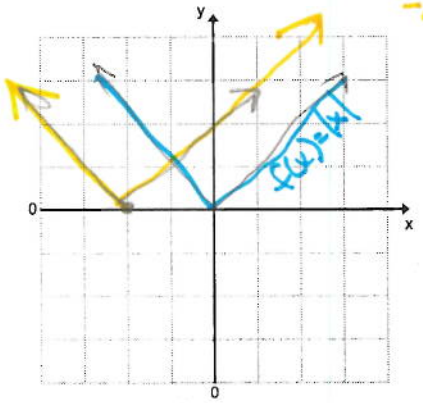
Possible ~~times~~ temp. 344° to 348°

Pg. 396 * compare to parent function $f(x) = |x|$ *

$f(x) = |x + 2|$

left two

x	y
-2	0

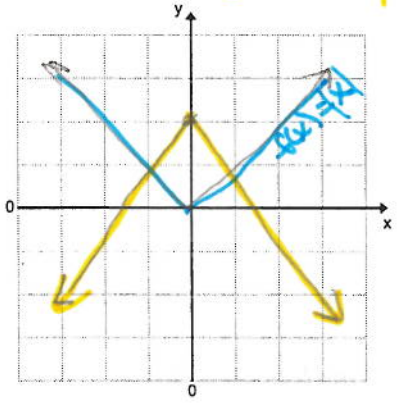


left two

← 2

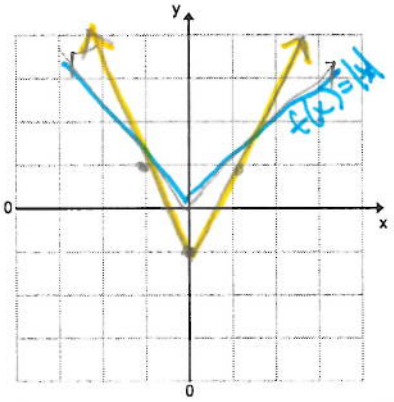
$f(x) = -|x| + 2$

up two and a flip



↑ 2 and flip

$f(x) = 2|x| - 1$



↓ 1

vertical stretch 2