

BE-1A

WEDNESDAY 4-11-07

① IDENTIFY THE FUNCTION

Ⓐ $(-3, -2), (-3, 1), (4, 6), (-4, 1)$

Ⓑ $(-3, -2), (-3, 4), (4, 6), (-4, 1)$

Ⓒ $(-3, -2), (-3, -2), (4, 6), (-4, 1)$

② NAME THE SET:

$\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$

③ Price is \$100 tax is 10%
FINAL COST?

①

Compound Inequality two inequalities separated by "AND" or "OR"

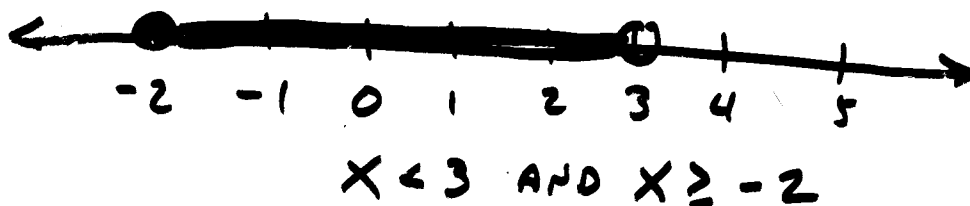
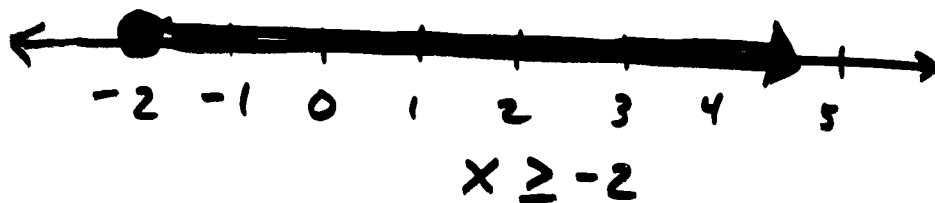
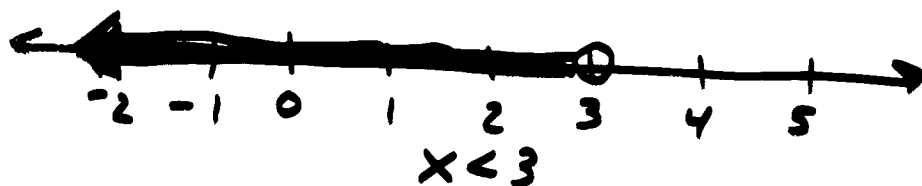
↑
CALLED AN
INTERSECTION

↑
CALLED A
UNION

EX) $x < 3$ AND $x \geq -2$ $x < 3$ OR $x \geq -2$

Compound means "MORE THAN ONE"

For an "AND" compound inequality to be true, the variable must satisfy both inequalities (solution) at the same time. Look at the graph of $x < 3$ AND $x \geq -2$



(2)

There is a SHORTHAND WAY OF
 WRITING "AND" COMPOUND INEQUALITIES
 (WITH OR COMPOUND INEQUALITIES YOU HAVE
 TO WRITE OUT THE WORD "OR")

SHORTHAND WAY FOR "AND"

EX) $X < 3$ AND $X \geq -2$

OR
$$\boxed{-2 \leq X < 3}$$

$$\boxed{3 > X \geq -2}$$

BOTH INEQUALITY
 SYMBOLS MUST
 POINT THE
 SAME WAY

EX) WRITE $X < 4$ AND $X \geq 1$ THE SHORT WAY

$$\boxed{1 \leq X < 4}$$
 OR
$$\boxed{4 > X \geq 1}$$

EX) WRITE $X > 0$ AND $X < 6$ SHORT WAY

$$\boxed{0 < X < 6}$$
 OR
$$\boxed{6 > X > 0}$$

EX) WRITE $-2 < X < 3$ THE LONG WAY

$$\boxed{X > -2 \text{ AND } X < 3}$$

Ex) Solve AND graph the intersection 3c

"AND" compound inequality

$$-5 < x - 4 < 2$$



$$-5 < x - 4$$

$$+4 \quad +4$$

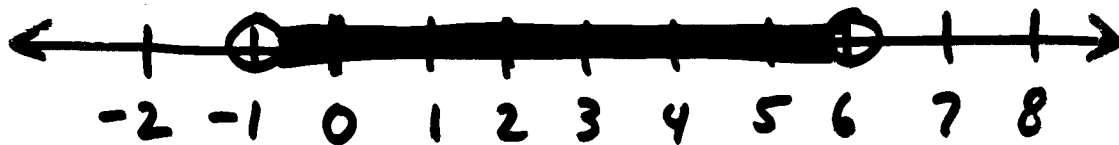
$$-1 < x$$

$$x - 4 < 2$$

$$+4 \quad +4$$

$$x < 6$$

$$\boxed{x > -1 \quad \text{AND} \quad x < 6}$$



$$-1 < x < 6$$

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SUMMARY: SOLVING "AND" COMPOUND INEQUALITIES

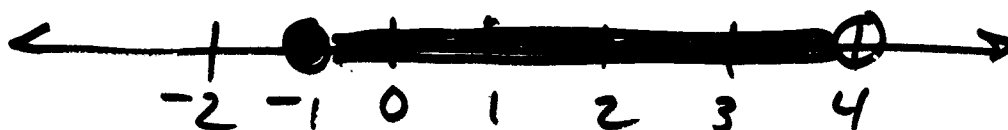
- WRITE THE 2 INEQUALITIES the "long" way
- SOLVE EACH INEQUALITY USING THE GRI
- GRAPH EACH INEQUALITY, the final graph is ONLY THE POINTS THAT ARE SHARED.

EX) $-2 \leq x - 1 < 3$

$$\begin{array}{ccc} -2 \leq x - 1 & \text{AND} & x - 1 < 3 \\ +1 & +1 & +1 \quad +1 \end{array}$$

$$-1 \leq x$$

$$\boxed{x \geq -1 \quad \text{AND} \quad x < 4}$$



HOMEWORK: Read Ch 6-4 Pg 342 #14, 28, 29