

Agenda

- 1) Take out HW to be checked
- 2) DO NOW
- 3) Discuss DO NOW
 - conjunction (*and*)
 - disjunction (*or*)
- 4) Compound Inequalities worksheet
- 5) Practice with Compound Inequ.

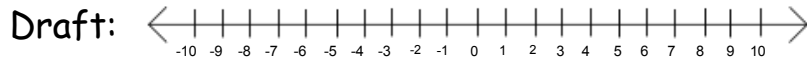
Homework: p. 67 #9,11,15,17,21,29

2.2: Solving Combined Inequalities

Objective: To Solve Conjunctions and Disjunctions

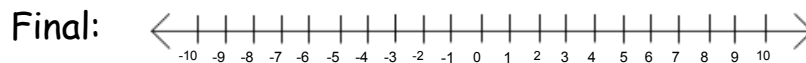
DO NOW: Use the **draft** line to graph the following:

1. $x > -4$ AND $x \leq 1$



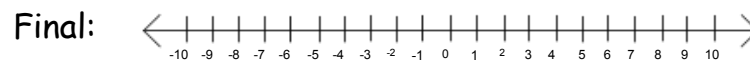
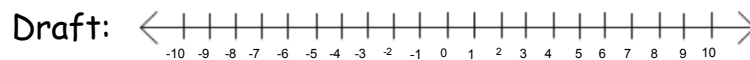
Conjunction: Uses AND. Find the Intersection.
Both parts **MUST** be true!

2. $x \leq 2$ OR $x > 5$

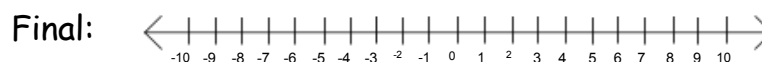
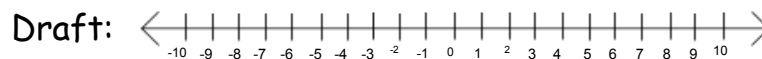


Disjunction: Uses OR. Find the Union.
The solutions must make **at least one** of the sentences true!

3. $x < 5$ AND $x > 8$



4. $x < 3$ OR $x > 0$



"AND" Inequalities Continued:
(Rewrite as two separate inequalities):

$$4 < 6x - 8 < 22$$

Draft



Final



How about:

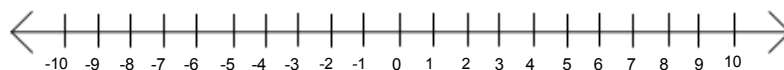
$$3x + 5 < 5x - 7 \leq 8x + 17$$

Rewrite as two:

Draft



Final



Compound Inequalities

Name: _____

AND means:

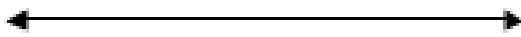
OR means:

GRAPH THE FOLLOWING COMPOUND INEQUALITIES:

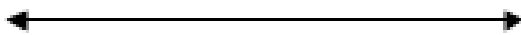
1. $C > 1$ AND $C < 3$



2. $6 < X < 10$



3. $X < 45$ OR $X > 65$



4. $X < 2$ OR $X > 5$



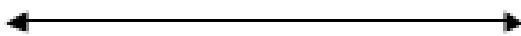
5. $-4 < X < 10$



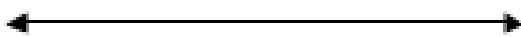
6. $X < -4$ OR $X > -1$



7. $X < 6$ OR $X > 0$



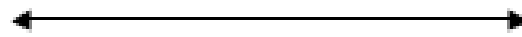
8. $X < 5$ OR $X > 3$



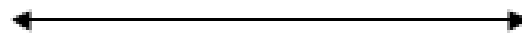
*9. $X > 6$ AND $X < 3$



10. $X > 6$ OR $X < 3$



11. $X > 5$ AND $X < 7$



12. $X > 5$ OR $X < 7$



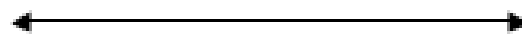
13. $4 < X < 9$



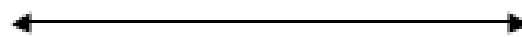
14. $X > 7$ AND $X > 10$



15. $X < 2$ AND $X < 5$



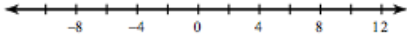
16. $X > 6$ AND $X < -1$



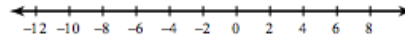
Compound Inequalities

Solve each compound inequality and graph its solution.

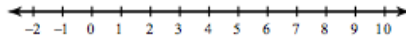
1) $m - 2 < -8$ or $\frac{m}{8} > 1$



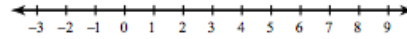
2) $-1 < 9 + n < 17$



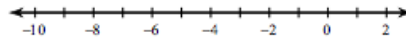
3) $2x < 10$ or $\frac{x}{2} \geq 3$



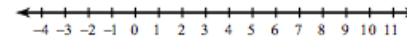
4) $x + 8 \geq 9$ and $\frac{x}{7} \leq 1$



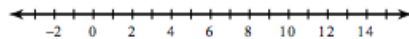
5) $-3 \leq \frac{p}{2} < 0$



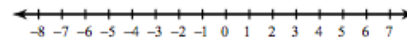
6) $r + 5 \geq 12$ or $\frac{r}{9} < 0$



7) $7v - 5 \geq 65$ or $-3v - 2 \geq -2$



8) $-10b + 3 \leq -37$ or $3b - 10 \leq -25$

**Homework: p. 67 #9,11,15,17,21,29**