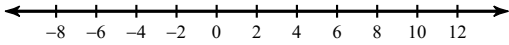Name_____

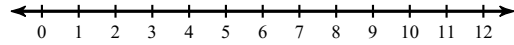# 2.4.D3 ~ Compound Inequalities   Past due on_____ Period_____

Solve each compound inequality and graph its solution set. Refer to the 2.4 example "Solving Compound Inequalities" in the Chapter 2 Summary.
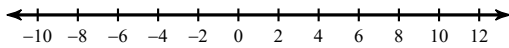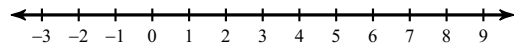
1) $-14 \le n - 6 < 4$
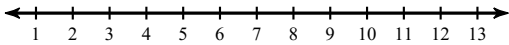

2) $-8p \le -56$ or $p - 4 < 0$

3) $r + 2 < -4$ or $r - 10 \ge -1$
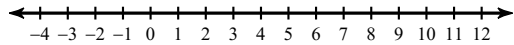

4) $x + 5 \le 7$ or $3x > 18$

5) $10 < x + 8 \le 12$

6) $-18 < -2n \le 2$

7) $-25 \le 4v + 3 < 7$
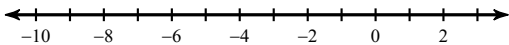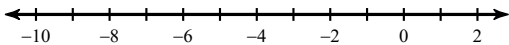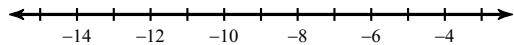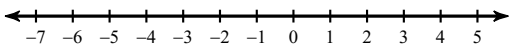

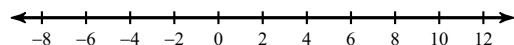8) $-3 - 5n \ge 17$ or $4n + 7 > 11$
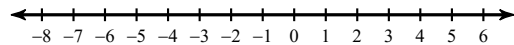
9) $-55 \le 8a + 1 \le 1$

10) $52 \le 10 - 7p \le 73$

11) $-21 \le -9x - 3 \le -3$

12) $10 - 8n < -62$ or $-9n - 10 \ge 35$

John owns at 50-acre apple orchard. Among his many concerns during the growing season is the amount of rainfall. Unfavorable conditions such as drought and flooding will affect tree production. John does not want rainfall amounts to be less than 10 inches or more than 50 inches.

13) Write a compound inequality to represent the same information. Let r represent the total rainfall.

14) Represent the undersirable rainfall amounts on a number line.

Tasha's family has signed up for a new cell phone plan. Tasha now has a limit on the number of texts she can send or receive each month. She can text no more than 300 times per month.

15) What is the least number of texts she can make in a month? Write an inequality to represent the statement. Use n for the number of texts.

16) What is the greatest number of texts she can make in a month? Write an inequality to represent the statement. Use n for the number of texts.

17) Write the statements as a compound inequality in compact form.

18) Graph the compound inequality on a number line.

Tasha's family new cell phone plan costs $55 per month plus $0.20 for each text with a maximum of 300 texts per month. Let t represent the number of texts made during the month.

19) Write an expression to represent the total monthly cost of the plan.

20) Determine the minimum cost per month by using the least number of texts Tasha can make in a month. Write an inequality to represent the statement. Use c for the monthly cost.

21) Determine the maximum cost per month by using the greatest number of texts Tasha can make in a month. Write an inequality to represent the statement. Use c for the monthly cost.

22) Write the compound inequality that represents the cost of the plan. Use c for the monthly cost.