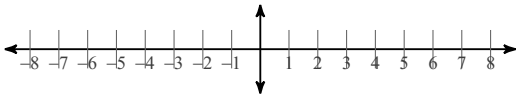
Algebra 1 - Mr. Allen-Black Name_____

Compound Inequalities

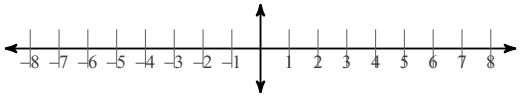
Date_____ Period____

Graph each compound inequality.

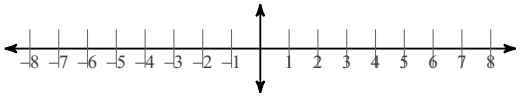
1) $n \geq -5$ and $n \leq 2$



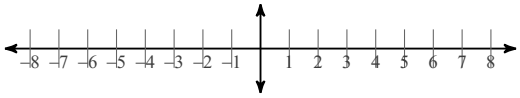
2) $-3 < x \leq 1$



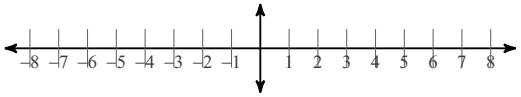
3) $x < -5$ or $x \geq 0$



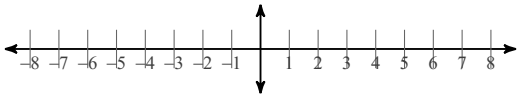
4) $x < -1$ or $x > 0$



5) $-3 < x \leq 2$



6) $x < -2$ and $x \geq -5$



7) What compound inequality represents the phrase "all real numbers that are greater than -2 and less than or equal to 5"? Graph the solutions.

8) The acidity of the water in a swimming pool is considered normal if the pH reading is between 7.2 and 7.8 inclusive. Write a compound inequality that describes an ABNORMAL pH reading. Label and graph your solutions on a numberline below.

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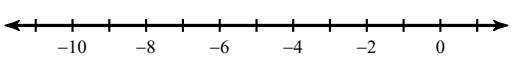
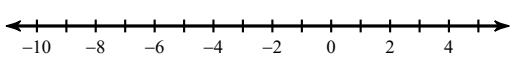
Solve each compound inequality and graph its solution.

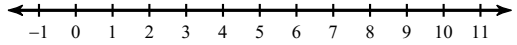
9) $x + 2 \geq 0$ or $\frac{x}{3} \leq -2$



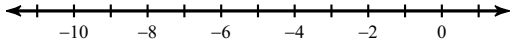
10) $\frac{x}{6} \leq -1$ or $x + 3 > 4$



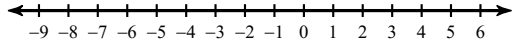
11) $0 \le n - 3 \le 3$



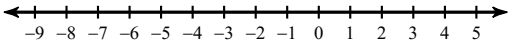
12) $-4 \le 2 + a < 2$



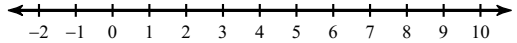
13) $k + 3 \le 7$ and $k - 2 > -8$



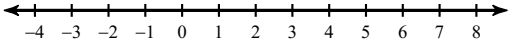
14) $\frac{p}{6} < -1$ or $-6p < 0$



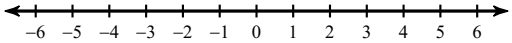
15) $2r + 4 < 8$ and $-3r + 5 < 5$



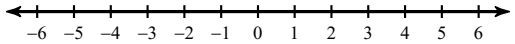
16) $2x - 4 > 4$ or $-3 + 5x < 2$



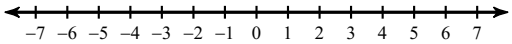
17) $-2n + 3 \le 1$ or $2n - 3 \le -7$



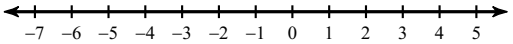
18) $4x - 1 < 11$ and $-3 - 5x \le 22$



19) $4a - 4 \ge 2 + a$ or $6 - 3a < 2 - 5a$



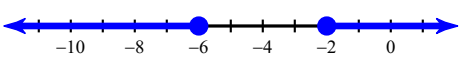
20) $3n + 3 \le n - 3$ or $-1 - 3n \le -2 - 2n$



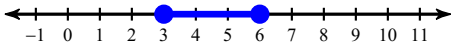
Answers to Compound Inequalities

1) 3) 5) 7)

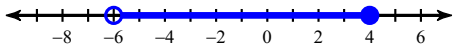
9) $x \geq -2$ or $x \leq -6$:



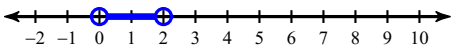
11) $3 \leq n \leq 6$:



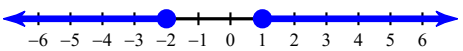
13) $-6 < k \leq 4$:



15) $0 < r < 2$:



17) $n \geq 1$ or $n \leq -2$:



19) $a \geq 2$ or $a < -2$: