Solve & Graph Compound Inequalities

1. Solve each compound inequality for x, and graph the solution on a number line.

a) $8 \geq -2(x - 9) \geq -8$

b) $4x + 8 > 2x - 10$ or $\frac{1}{3}x - 3 < 2$

c) $7 - 3x < 16$ and $x + 12 < -8$

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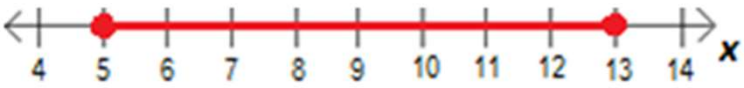
a) $8 \geq -2(x-9) \geq -8$

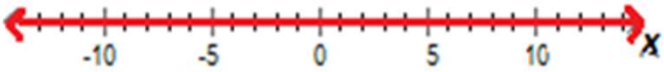
$5 \leq x$



b) $4x + 8 > 2x - 10$ or $\frac{1}{3}x - 3 < 2$

$x > -9$ *or* $x < 15$

→ *all real numbers*



c) $7 - 3x < 16$ and $x + 12 < -8$

$x > -3$ *and* $x < -20$

→ *no solution*