Objective 3 - Solve Compound Linear Inequalities

Solve linear inequalities.

Link to section in online textbook.

Watch this video to learn how to solve compound inequalities. For both kinds of compound inequalities, we first split it into two inequalities, solve separately, then put them back together at the end.

Question 1 $\frac{9}{5}x + \frac{9}{8} < -\frac{4}{3}x - \frac{3}{2}$ *or* $-\frac{4}{3}x - 1 > -2x - \frac{5}{2}$

($-\infty$, -0.838)
∪
(-2.25 , $+\infty$)

Hint: *There are four boxes so you can input the entire interval. Each interval should be:*
(or [
number or ∞
number or ∞
) or]

Question 2 $\frac{6}{7}x - \frac{3}{5} \leq -\frac{5}{9}x + 5$ *or* $\frac{10}{7}x - 3 \geq -\frac{1}{3}x + 1$

($-\infty$, 3.964]
∪
[2.27 , $+\infty$)

Hint: *There are four boxes so you can input the entire interval. Each option should be:*
(or [
number or ∞
number or ∞
) or]

Learning outcomes: Understand and solve linear inequalities.
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Question 3

$$7\,x - 8 < \frac{39}{5}\,x + 1 < -6\,x + 6$$

(−11.25 , 0.36231884057971014)

Hint: *There are four boxes so you can input the entire interval. Each option should be:*
(or [
number or ∞
number or ∞
) or]

Question 4

$$5\,x + 6 \leq \frac{13}{2}\,x - \frac{7}{6} \leq 6\,x + 6$$

[4.777777777777778 , 14.333333333333334]

Hint: *There are four boxes so you can input the entire interval. Each option should be:*
(or [
number or ∞
number or ∞
) or]
