Compound inequalities

Problem 1 of 6

Question

Solve and graph: $-5 < 2x + 3 < 7$

Answer

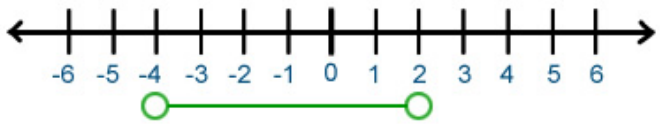
$-5 < 2x + 3 < 7$

$-5 - 3 < 2x + 3 - 3 < 7 - 3$

$-8 < 2x < 4$

$\frac{-8}{2} < \frac{2x}{2} < \frac{4}{2}$

$-4 < x < 2$



Problem 2 of 6

Question

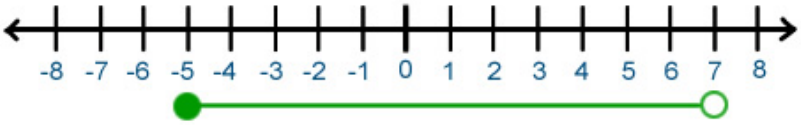
Solve and graph: $-2 \leq 3 + x < 10$

Answer

$-2 \leq 3 + x < 10$

$-2 - 3 \leq 3 - 3 + x < 10 - 3$

$-5 \leq x < 7$



Problem 3 of 6

Question

Solve and graph: $10 < -5x + 20 < 40$

Answer

$10 < -5x + 20 < 40$

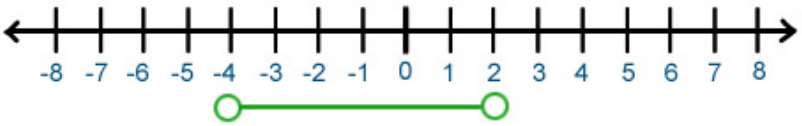
$10 - 20 < -5x + 20 - 20 < 40 - 20$

$-10 < -5x < 20$

$\frac{-10}{-5} > \frac{-5x}{-5} > \frac{20}{-5}$

$2 > x > -4$

$-4 < x < 2$



Problem 4 of 6

Question

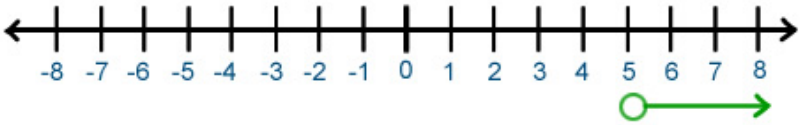
Solve and graph: $-10 < 5x$ AND $15 < 3x$

Answer

$-10 < 5x$ AND $15 < 3x$

$\frac{-10}{5} < \frac{5x}{5}$ AND $\frac{15}{3} < \frac{3x}{3}$

$-2 < x$ AND $5 < x$



Problem 5 of 6

Question

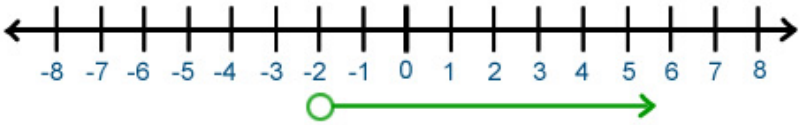
Solve and graph: $-10 < 5x$ OR $15 < 3x$

Answer

$-10 < 5x$ OR $15 < 3x$

$\frac{-10}{5} < \frac{5x}{5}$ OR $\frac{15}{3} < \frac{3x}{3}$

$-2 < x$ OR $5 < x$



Problem 6 of 6

Question

Solve and graph: $-10 < 5x$ AND $15 > 3x$

Answer

$-10 < 5x$ AND $15 > 3x$

$\frac{-10}{5} < \frac{5x}{5}$ AND $\frac{15}{3} > \frac{3x}{3}$

$-2 < x$ AND $5 > x$