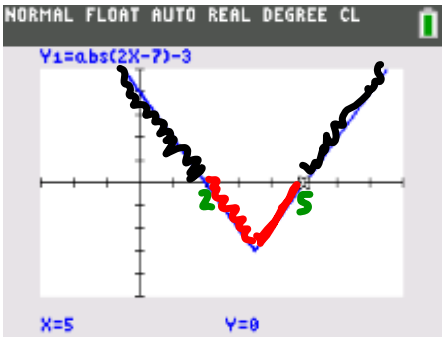
Solve all five almost simultaneously

$|2x-7| = 3$ $\{2, 5\}$

$|2x-7| < 3$ $(2, 5)$

$|2x-7| \leq 3$ $[2, 5]$



$|2x-7| > 3$ $(-\infty, 2) \cup (5, \infty)$

$|2x-7| \geq 3$ $(-\infty, 2] \cup [5, \infty)$

By hand

$|2x-7| < 3 \Rightarrow$

$-3 < 2x-7 < 3$

$+7 \quad +7 \quad +7$

$\frac{4}{2} < \frac{2x}{2} < \frac{10}{2}$

$2 < x < 5 \Rightarrow x \in (2, 5)$

$|2x-7| > 3 \Rightarrow$

$2x-7 < -3$ or $2x-7 > 3$

$+7 \quad +7$ $\quad +7 \quad +7$

$\frac{2x}{2} < \frac{4}{2}$ $\quad \frac{2x}{2} > \frac{10}{2}$

$x < 2$ $\quad x > 5$

$(-\infty, 2) \cup (5, \infty)$

56. $|5 - 2x| > 10$

$5 - 2x < -10$ or $5 - 2x > 10$

$-5 \quad -5 \qquad\qquad -5 \quad -5$

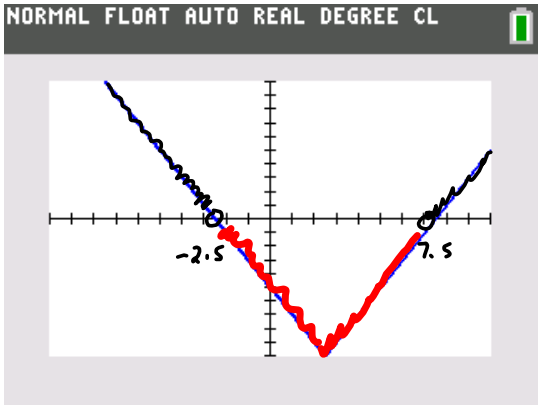
$-2x < -15 \qquad\qquad -2x > 5$

$\div -2 \quad \div -2 \qquad\qquad \div -2 \quad \div -2$

flip

$x > 7.5 \qquad\qquad x < -2.5$

$x \in (-\infty, -2.5) \cup (7.5, \infty)$



≈ 56) $|5 - 2x| \leq 10$

$-10 \leq 5 - 2x \leq 10$

$-5 \quad -5 \qquad -5$

$-15 \leq -2x \leq 5$

$\div -2 \quad \div -2 \quad \div -2$

flip

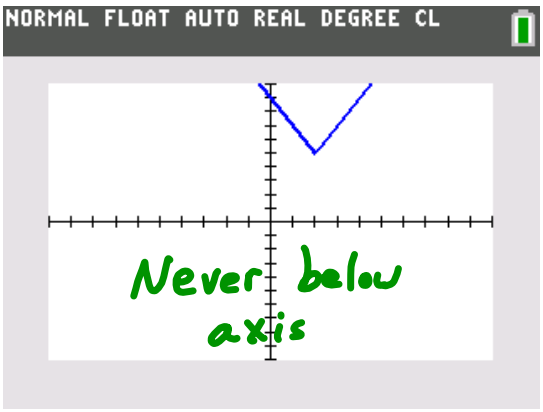
$7.5 \geq x \geq -2.5$ (clumsy)

$-2.5 \leq x \leq 7.5$ $\qquad x \in [-2.5, 7.5]$

61. $|2x - 4| < -5$

negative

No Solution



62. $|3x + 5| < 0$

No Solution

64. $|2x + 1| > -\frac{1}{2}$

all real numbers

$x \in (-\infty, \infty)$

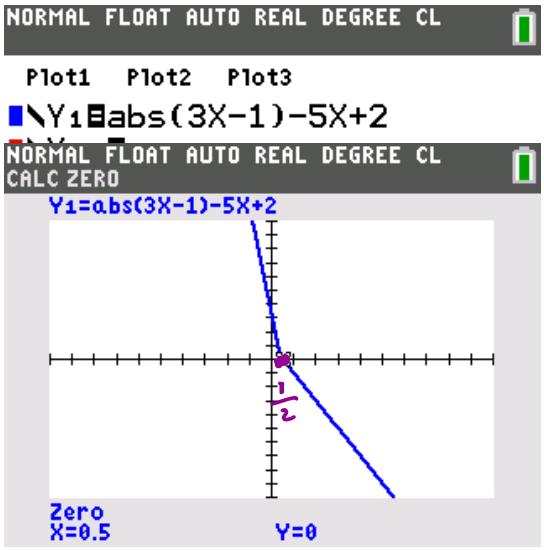
Solve.

above

73. $|3x - 1| \geq 5x - 2$

$x < \frac{1}{2}$

$x \in (-\infty, \frac{1}{2})$



above

77. $|x - 3| + |2x + 5| \geq 6$

$x \in (-\infty, -8/3) \cup (-2, \infty)$