

General Algebra II Worksheet #6 Unit 1 Selected Solutions

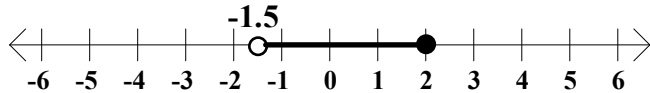
Solve each of the following continued inequalities. Then express the solution set using interval notation and sketch its graph.

3. $-8 < 6x + 1 \leq 13$

$$-9 < 6x \leq 12$$

$$-3/2 < x \leq 2$$

$$S = (-1.5, 2]$$



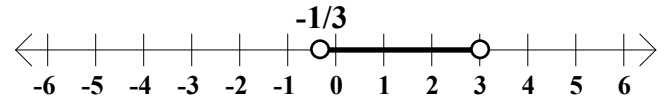
5. $-10 < -3x - 1 < 0$

$$-9 < -3x < 1$$

$$3 > x > -1/3$$

$$-1/3 < x < 3$$

$$S = (-1/3, 3)$$



Solve each of the following. Express the solution set as an interval or the union of intervals.

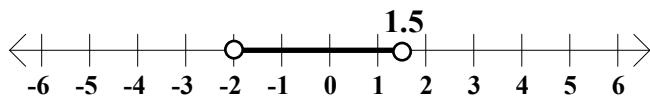
7. $3x + 7 > 1$ and $-2x + 8 > 5$

$$3x > -6 \quad -2x > -3$$

$$x > -2 \quad \text{and} \quad x < 3/2$$

$$-2 < x < 1.5$$

$$S = (-2, 1.5)$$



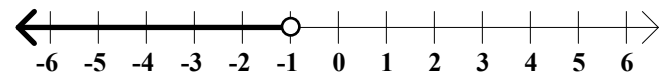
11. $4x + 6 < 18$ and $-3x + 7 > 10$

$$4x < 12 \quad -3x > 3$$

$$x < 3 \quad \text{and} \quad x < -1$$

$$x < -1$$

$$S = (-\infty, -1)$$



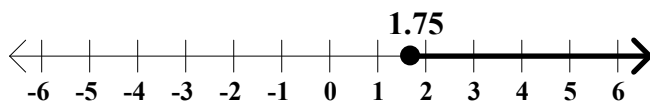
15. $8x - 10 \geq 18$ or $9x + 2 \geq 23$

$$8x \geq 28 \quad 9x \geq 21$$

$$x \geq 7/4 \quad \text{or} \quad x \geq 7/3$$

$$x \geq 7/4$$

$$S = [7/4, \infty)$$



17. $-4x + 10 \leq 1$ or $6x + 5 \leq 2$

$$-4x \leq -9 \quad 6x \leq -3$$

$$x \geq 9/4 \quad \text{or} \quad x \leq -1/2$$

$$S = (-\infty, -1/2] \cup [9/4, \infty)$$

