General Algebra II Worksheet #3 Unit 1 Selected Solutions

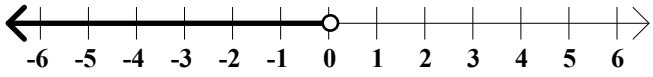
For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

1. (a) $-5 \leq x \leq 1$

(b) $[-5, 1]$

3. (a) $x < 0$

(b) $(-\infty, 0)$



For each of the following intervals, (a)write an appropriate inequality, (b) tell whether it is bounded or unbounded, and (c) sketch its graph.

5. $[-2, 3]$

(a) $-2 \leq x \leq 3$

(b) bounded

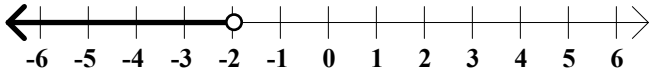
(c)

8. $(-\infty, -2)$

(a) $x < -2$

(b) unbounded

(c)



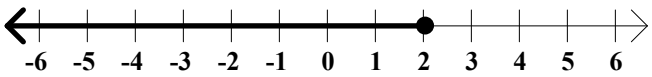
Solve each of the following inequalities. Then express the solution set using interval notation and sketch its graph. (Show your work neatly organized.)

9. $5x + 4 \leq 14$

$5x \leq 10$

$x \leq 2$

$S = (-\infty, 2]$

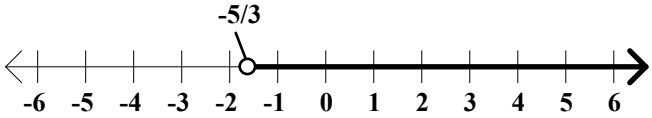


16. $-6x - 5 < 5$

$-6x < 10$

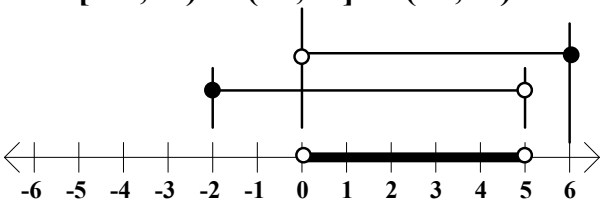
$x > -5/3$

$S = (-5/3, \infty)$

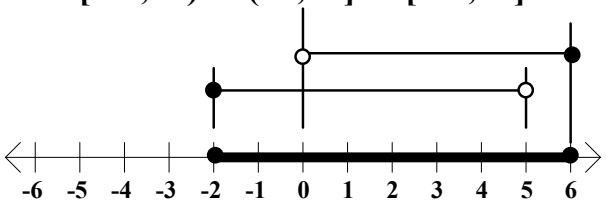


Express each of the following as a single interval.

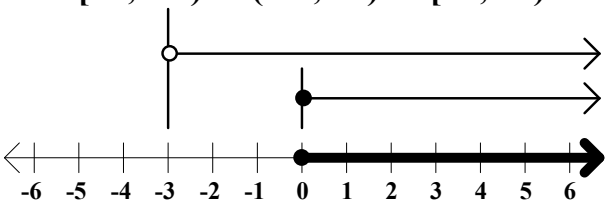
17. $[-2, 5) \cap (0, 6] = (0, 5)$



18. $[-2, 5) \cup (0, 6] = [-2, 6]$



21. $[0, \infty) \cap (-3, \infty) = [0, \infty)$



22. $[0, \infty) \cup (-3, \infty) = (-3, \infty)$