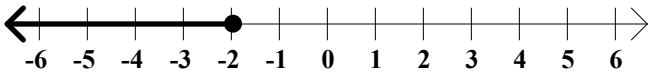
Algebra II Class Worksheet #2 Unit 1 page 1 _____

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

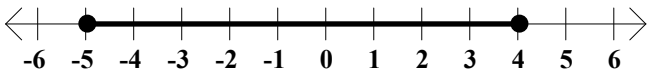
1. (a) _____

   (b) _____



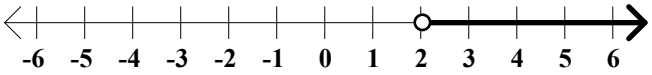
2. (a) _____

   (b) _____



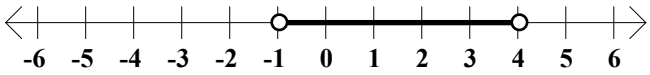
3. (a) _____

   (b) _____



4. (a) _____

   (b) _____



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 , ∞)

(a) _____

(b) _____

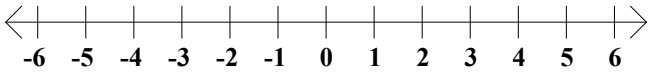
(c)

6. (3 , 5)

(a) _____

(b) _____

(c)



7. (-∞ , 4]

(a) _____

(b) _____

(c)

8. [-3 , 0]

(a) _____

(b) _____

(c)

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

9. $4(3x + 2) - 2(x + 5) \geq 8$

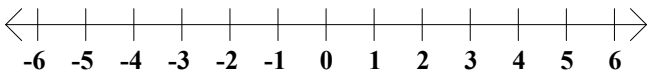
10. $5(3x + 1) - 4(5x - 3) > 2$

11. $3(4x - 3) - 4(2x - 3) \leq 4(x - 3) - 5(2x - 1)$

12. $2 \leq 5x - 3 \leq 12$

13. $-3 < 4x + 9 < 15$

14. $-5 < 3x + 5 \leq 5$



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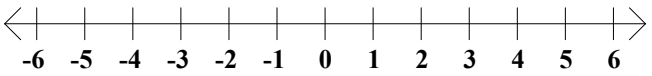
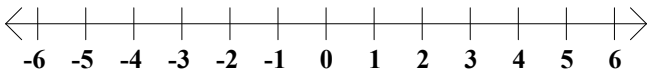
Solve each of the following inequalities. Then express the solution set using interval notation and sketch its graph. (Show your work neatly organized.)

15. $-12 < -2x - 3 < 4$

16. $-1 \leq \frac{2x + 3}{3} \leq 5$





Express each of the following as a single interval.

17. $[\,1\,,\,4\,) \cap (\,-2\,,\,3\,] =$ _____

18. $[\,1\,,\,4\,) \cup (\,-2\,,\,3\,] =$ _____

19. $(\,-\infty\,,\,4\,) \cap [\,-3\,,\,\infty\,) =$ _____

20. $(\,-\infty\,,\,4\,) \cup [\,-3\,,\,\infty\,) =$ _____