Name: _____ **Date:** _____ **ID: R**

Algebra I: Chapter 3 Review

Short Answer

1. Solve the inequality. Graph the solutions on a number line.

   $\frac{b}{5} > -15$

2. Solve the inequality. Graph the solutions on a number line.

   $-1.2t \geq 6$

3. Solve the inequality.

   $7t - 6 - 3t \leq 4(t - 1)$

4. Solve the inequality.

   $8 - 2x > 15$

5. Solve the inequality. Graph the solutions on a number line.

   $|v + 2| \leq 5$

6. Solve the inequality. Graph the solutions on a number line.

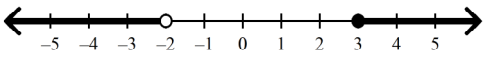
   $|4n| > 12$

7. Solve the inequality. Graph the solutions on a number line.

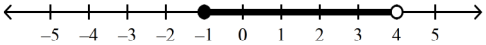
   $-2p \leq -14$ *or* $5p < 15$

8. The speed limit on the road is 65 mph. The police officer is using a radar device to monitor speed. He allows people to exceed the limit by 4 mph or drive under the limit by 9 mph without giving them a ticket. Write a compound inequality representing the speed which drivers can travel without getting a ticket.

9. Write a compound inequality the graph could represent.



10. Write a compound inequality the graph could represent.



11. Solve.
    $|5z - 6| = 9$

12. Solve.
    $|4k + 9| = -21$

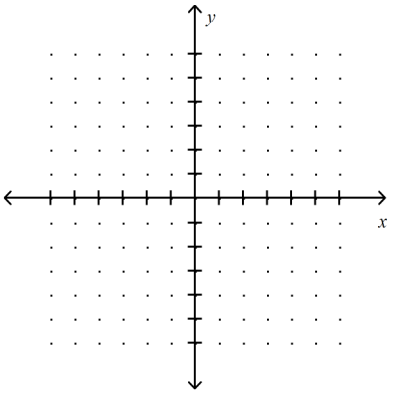
13. Solve.
$3|5 - m| = 24$

14. Solve.
$|3x + 5| - 7 = 36$

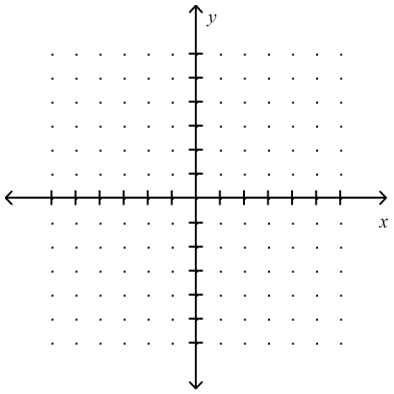
15. Write an inequality with a solution of all numbers greater than or equal to 13.

16. Explain how to solve $|3d| + 5 < 17$.

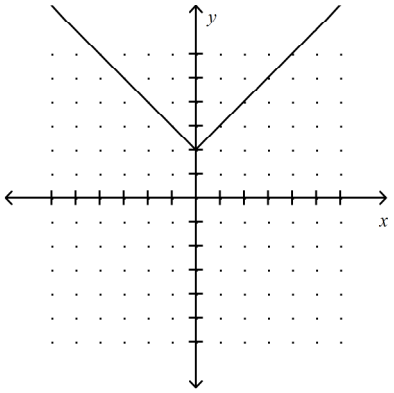
17. Graph the linear inequality: $y < 5x - 2$



18. Graph the linear inequality: $6x + 4y \geq 12$



19. Describe how the graph is related to the graph of y = |x|. Then write the equation that represents the graph.



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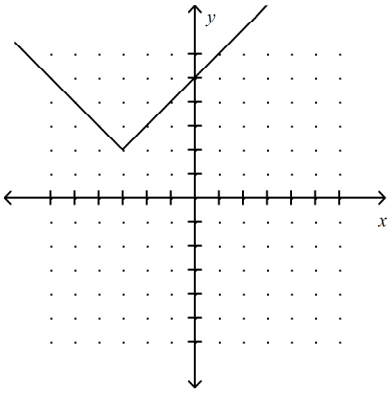
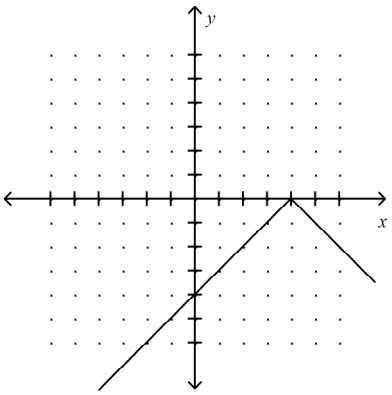
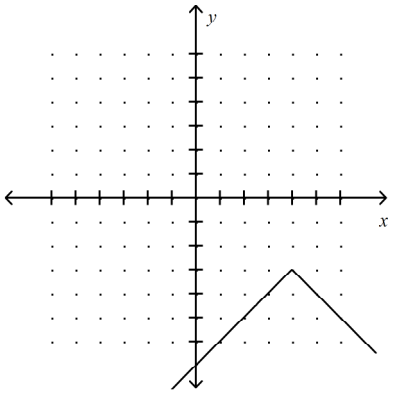


21. Describe how the graph is related to the graph of y = −|x|. Then write the equation that represents the graph.

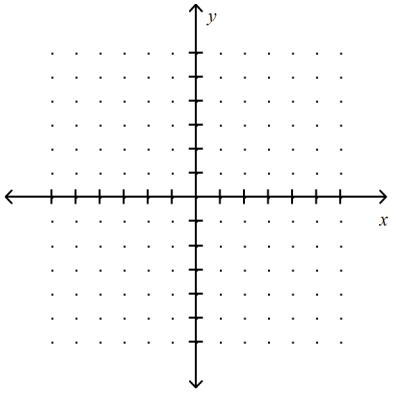


22. Describe how the graph is related to the graph of $y = -|x|$. Then write the equation that represents the graph.



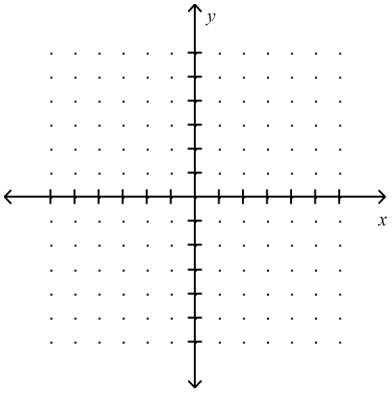
23. Graph the function by translating $y = |x|$

$y = |x| + 2$



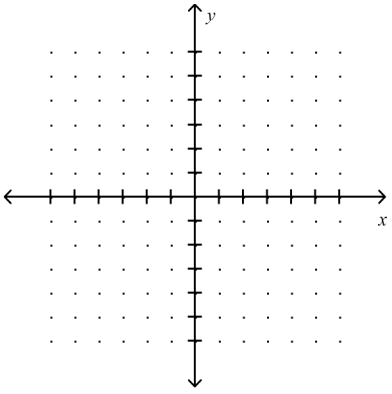
24. Graph the function by translating $y = |x|$

$y = |x - 1| - 2$



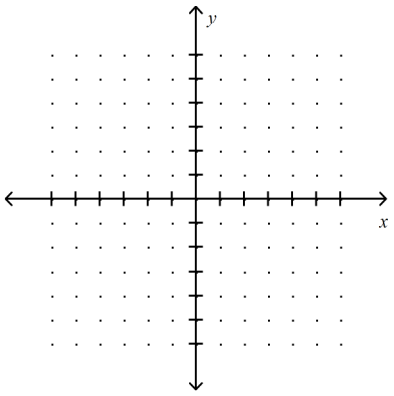
25. Graph the function by translating $y = |x|$

$y = |x + 2|$



26. Graph the function by translating y = |x|

$y = -|x - 2| + 4$



27. Use complete sentences to explain why the following equation has no solution.

$|2x - 5| = -11$