Algebra 2

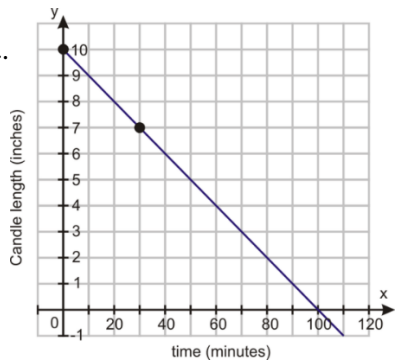
Name _____

Unit 0 Test Review

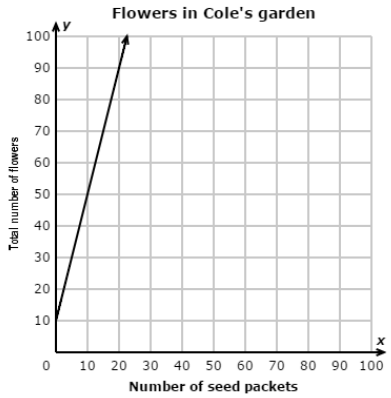
Block _____ Date _____

Find the Rate of Change.

1.



2.



Find the slope of the line that passes through the following points.

3. (2, 18) and (-4, 4)

4. (2, -3) and (-3, 7)

Write the equation of the line that goes through the following points.

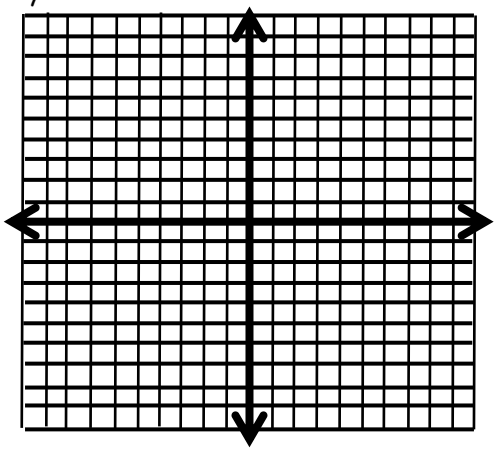
5. (2, 4) and (1, -2)

6. (9, -2) and (-3, 2)

Solve the system of inequalities.

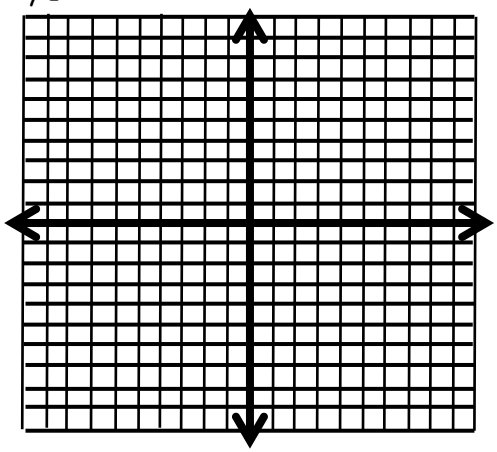
7. $y \leq \frac{1}{2}x + 2$

   $y < -2x - 3$



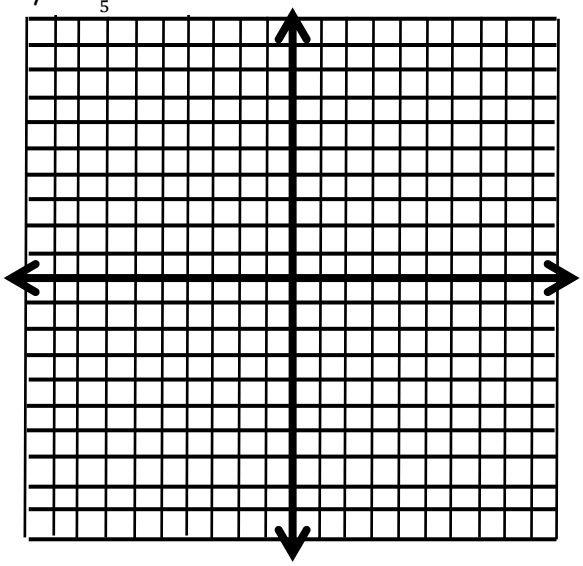
8. $y \geq -x + 2$

   $y \geq -4x - 1$

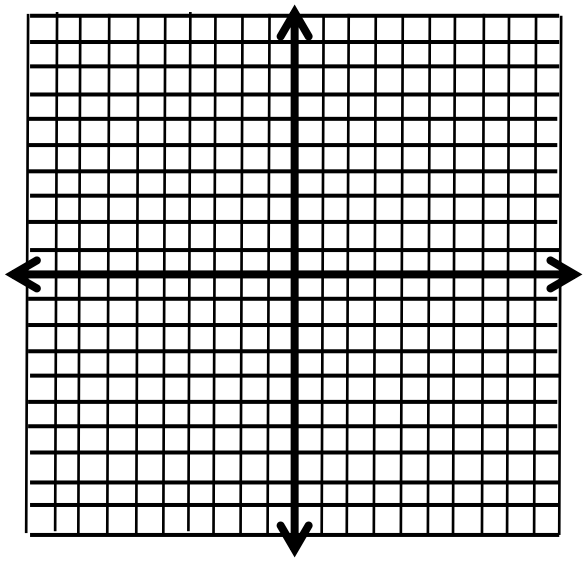


Solve the system by graphing.

9. $y = \frac{2}{5}x - 7$
   $y = -\frac{4}{5}x - 1$



10. $y = x - 9$
    $y = -3x + 3$



Solve the system of equations by substitution.

11. $-5x + 2y = -1$
    $x = 2y + 5$

12. $5x - 2y = 18$
    $2x + y = 9$

Solve the system of equations by elimination.

13. $8x + y = -16$
    $3x - y = 5$

14. $-16x - 7y = 11$
    $-8x - 2y = 10$

Solve the absolute value equations.

15. $-2 + |-3n - 6| = 22$

16. $9|6x - 7| - 4 = 5$

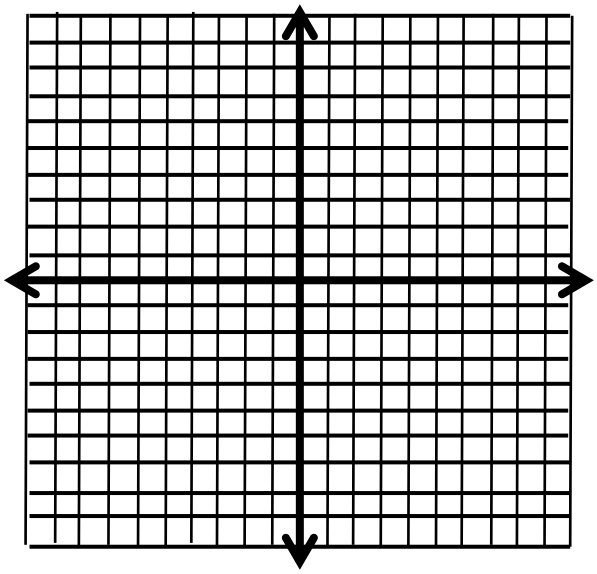
Solve the absolute value inequalities.

17. $|5n - 5| + 10 < 45$

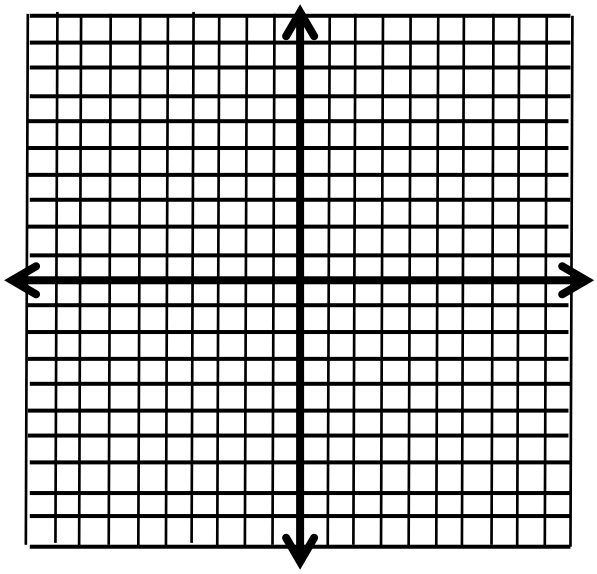
18. $4|5 + 4x| \leq 52$

Graph the absolute value functions.

19. $y = |x + 5| - 7$



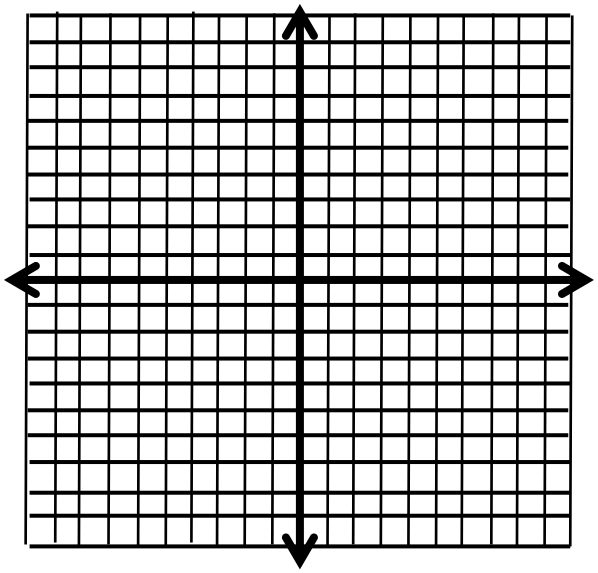
20. $y = 2|x - 1| + 1$



Graph the piecewise function.

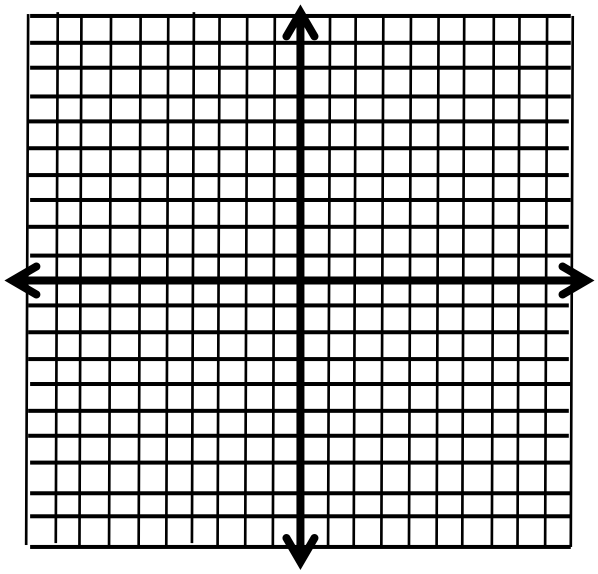
21. $f(x) = \begin{cases} -2x - 1, & x \leq 2 \\ -x + 4, & x > 2 \end{cases}$

x	f(x) = -2x - 1	f(x) = -x + 4
-1		
0		
1		
2		
3		
4		
5		



22. $f(x) = \begin{cases} 3x + 17, & x < -5 \\ -3, & -5 < x < 0 \\ -2x + 1, & x \geq 0 \end{cases}$

x	f(x) = 3x + 17	f(x) = -3	f(x) = -2x + 1
-7			
-6			
-5			
-4			
-3			
-2			
-1			
0			
1			
2			



Word Problems.

23. Paul opens a savings account with $350. He saves $150 per month. Assume that he does not withdraw money or make any additional deposits.
    a. Write a linear equation that represents the total amount of money Paul deposits into his account after *m* months.

    b. After how many months will Paul have $2,000 in his savings account?

24. Elisa and Alberto are selling fruit for a school fundraiser. Customers can buy small boxes of oranges and large boxes of oranges. Elisa sold 12 small boxes and 6 large boxes for a total of $222. Alberto solve 1 small box and 4 large boxes for a total of $78. What is the cost of one small boxes and one large box?

25. Student council is selling shirts to raise money for Prom. They are selling t - shirts (t) for $10 each and hoodies (h) for $15 each.
    a. Write an inequality that represents a profit of at least $750.

    b. Graph the inequality on the coordinate grid, labeling your x- axis with hoodies and your y - axis with t - shirts.