Algebra 1 Test Review Chapter 5: Linear Equations: 5.6 - 5.9 Chapters 1-5.5 Spiral

- ***Review for Chapter 5 is due on the day of the test.***
- ***Review will not be graded unless answers are written on separate paper.***
- ***In order to be eligible to retest, this review must becomplete, accurate, and turned in.***

5.6-5.9 Review

1. Find the *x*- and *y*-intercepts of $-x + 2y = 8$.
2. Graph the line with the slope $\frac{1}{3}$ and *y*-intercept –2.
3. Write the equation that describes the line with slope = 2 and *y*-intercept = $\frac{3}{2}$ in slope-intercept form.
4. Write the equation that describes the line in slope-intercept form.
   slope = 4, point (3, –2) is on the line
5. Write the equation $4x + 8y = -24$ in slope-intercept form. Then graph the line described by the equation.
6. Write the equation $2x + 4y = 8$ in slope-intercept form. Then graph the line described by the equation.
7. The water level of a river is 34 feet and it is receding at a rate of 0.5 foot per day. Write an equation that represents the water level, *w*, after *d* days. Identify the slope and *y*-intercept and describe their meanings. In how many days will the water level be 26 feet?
8. Graph the line with a slope of $\frac{2}{3}$ that contains the point (3, –7).
9. Write an equation in point-slope form for the line that has a slope of 6 and contains the point (–8, –7).
10. Write an equation in slope-intercept form of the line with slope − that contains the point (2, 3).
11. Write an equation in slope-intercept form for the line that passes through (3, 7) and (7, 4).
12. The equations of four lines are given. Identify which lines are parallel.

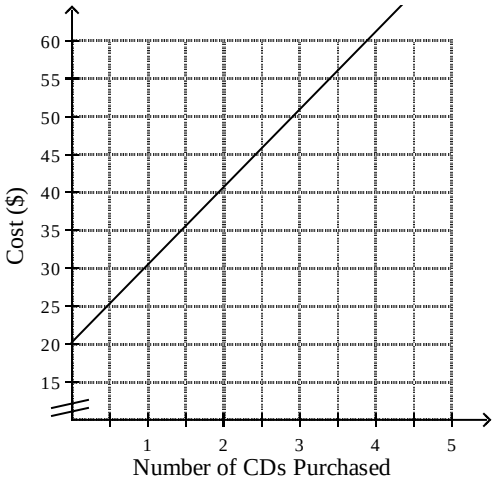
Line 1:	$y = -7x + 6$	Line 2	$x + \frac{1}{5}y = -6$
Line 3	$y = -5x - 8$	Line 4:	$y + 7 = -\frac{1}{7}(x + 4)$

13. Identify the lines that are perpendicular:
    $y = -2$; $y = \frac{1}{5}x + 3$; $x = -2$; $y + 3 = -5(x + 2)$
14. Write an equation in slope-intercept form for the line parallel to $y = 5x - 2$ that passes through the point (8, –2).

Write the equation of a line that is perpendicular to the given line and that passes through the given point.

15. $4x - 12y = 2$; (10, –1)
16. Describe the transformation from the graph of $f(x) = x + 4$ to the graph of $g(x) = x - 1$.
17. Describe the transformation from the graph of $f(x) = 3x$ to the graph of $g(x) = \frac{1}{4}x$.

18. A music club charges an initial joining fee of $20.00. The cost per CD is $10.25. The graph shows the cost of belonging to the club as a function of CDs purchased. How will the graph change if the cost per CD goes up by $2.00? (Show the new function as a dotted line.)



19. Write an equation of a line that has the same slope as $2x - 5y = 12$ and the same y-intercept as $4y + 24 = 5x$.

Graph the equations.

20. $y + 2 = -(x - 4)$

21. $5x - 4y = 16$

22. $-3x + 2y = 6$

23. A line passes through (1, –5) and (–3, 7).
a. Write an equation for the line in point-slope form.
b. Rewrite the equation in slope-intercept form.

24. Is the relationship shown by the data linear? If so, model the data with an equation.

x	y
-9	-2
-5	-7
-1	-12
3	-17

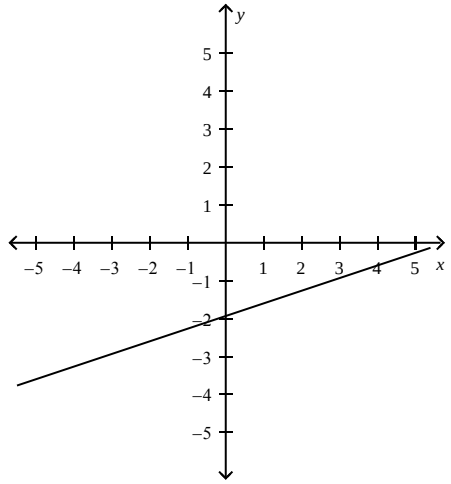
25. Using the table below, determine the rate of change and y-intercept. Write the equation of the line described by the data

x	y
4	3
8	9
10	12

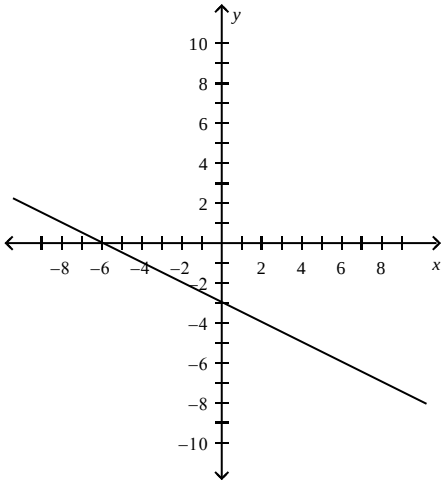
26. Giselle pays $210 in advance on her account at the athletic club. Each time she uses the club, $15 is deducted from the account. Model the situation with a linear function and a graph.
27. Write the equation and graph the parent linear function.

Part 2, Spiral Exam Chapters 1-5.5: Use your previous Chapter Exam Reviews to study for the Spiral

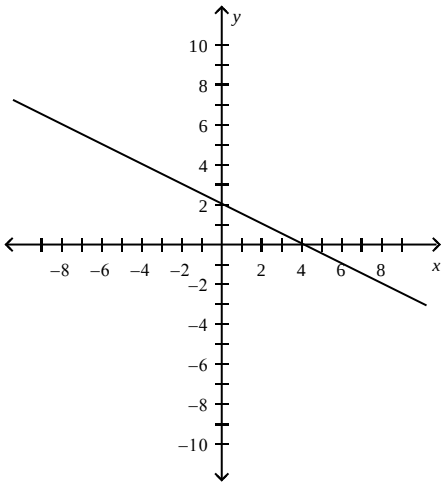
5.6-5.9 Review

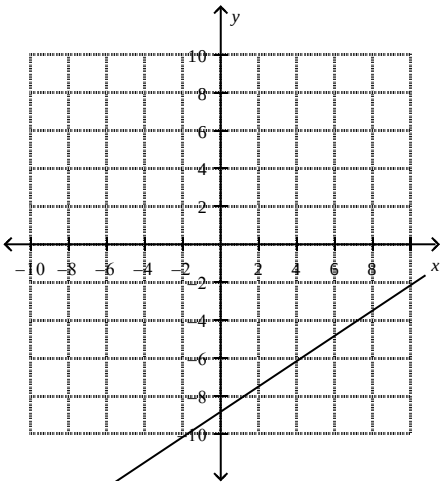
1. *x*-intercept: –8, *y*-intercept: 4
2. 

3. $y = 2x + \frac{3}{2}$
4. $y = 4x - 14$
5. $y = -\frac{1}{2}x - 3$



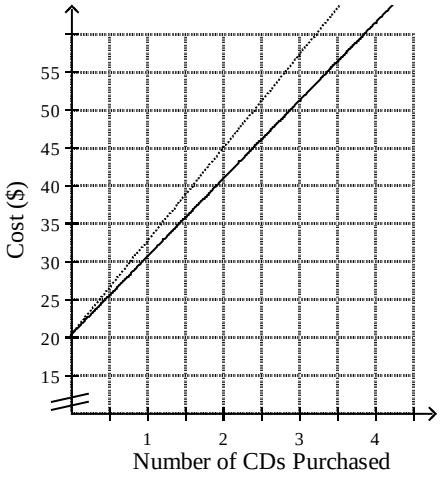
6. $y = -\frac{1}{2}x + 2$



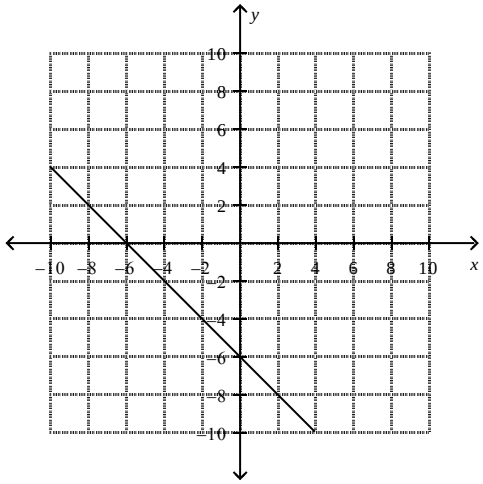
7. $w = -0.5d + 34$
   The slope is -0.5, and this is the rate at which the water level is receding. The *y*-intercept is 34, and this is the water level after 0 days. In 16 days, the water level will be 26 feet.
8. 

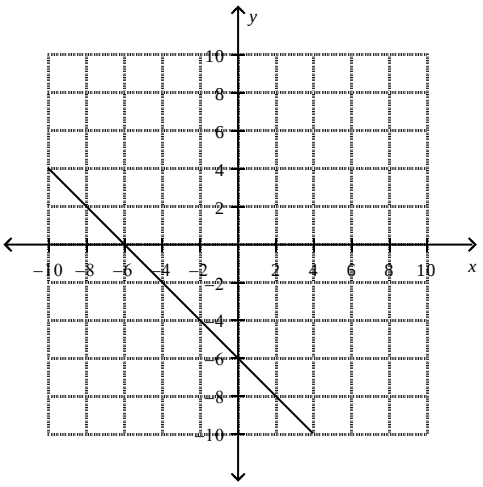
9. $y + 7 = 6(x + 8)$
10. $y = -x + 5$
11. $y = -\frac{3}{4}x + \frac{37}{4}$
12. Lines 2 and 3 are parallel.
13. $y = -2$ and $x = -2$ are perpendicular; $y = \frac{1}{5}x + 3$ and $y + 3 = -5(x + 2)$ are perpendicular.
14. $y = 5x - 42$
15. $y = -3x + 29$
16. The graph $g(x) = x - 1$ is the result of translating the graph of $f(x) = x + 4$ down 5 units.

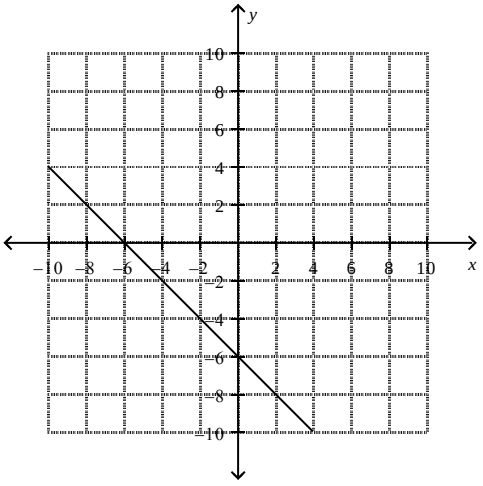
17. The graph of $g(x) = \frac{1}{4}x$ is the result of rotating the graph of $f(x) = 3x$ clockwise.
The graph of $g(x)$ is less steep than the graph of $f(x)$.

18. 

19. $y = \frac{2}{5}x - 6$

20. 

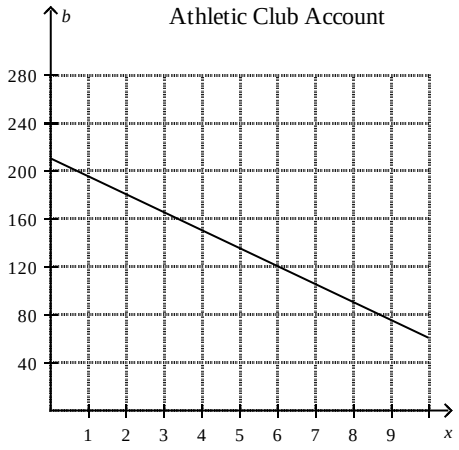
21. 

22. 

23. $y + 5 = -3(x - 1)$; $y = -3x - 2$

24. The relationship is linear; $y + 2 = -\frac{5}{4}(x + 9)$.

25. y=(3/2)x-3

26. 

$b = 210 - 15x$