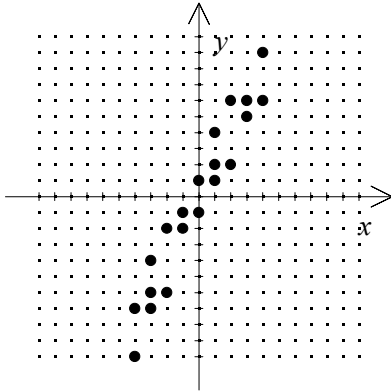
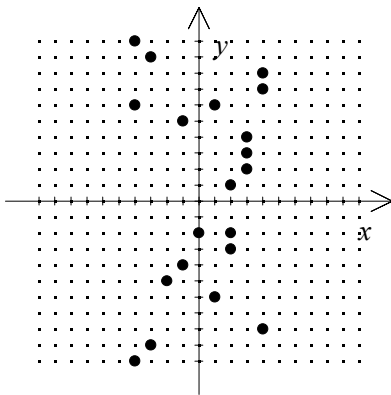


ALGEBRA I
TERM 2 STUDY GUIDE

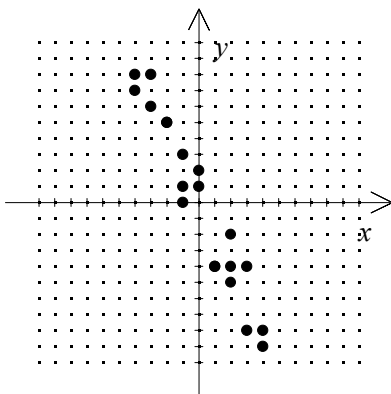
1. What type of relationship, positive, negative, or none, is shown by the scatter plot?



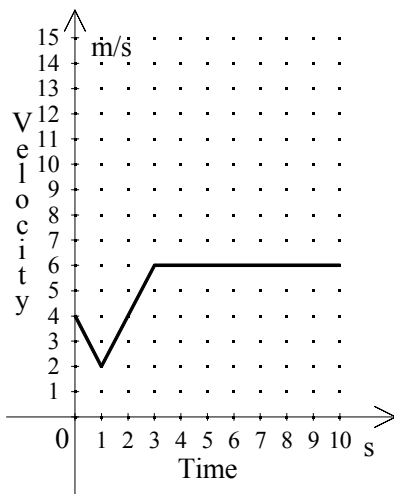
2. What type of relationship, positive, negative, or none, is shown by the scatter plot?



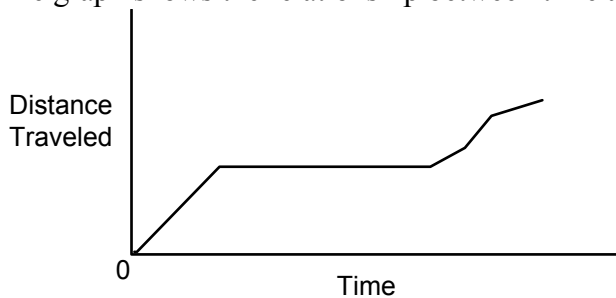
3. What type of relationship, positive, negative, or none, is shown by the scatter plot?



4. What kind of correlation would you expect from the ordered pair (student's score on a history test, student's college grades)?
- [A] no correlation [B] negative correlation
 [C] positive correlation [D] none of these
5. What kind of correlation would you expect from the ordered pair (student's score on a math test, student's high school grades)?
- [A] no correlation [B] negative correlation
 [C] positive correlation [D] none of these
6. In a local bagel shop, the number of plain bagels sold in one month increased as the number of onion bagels increased. Is this an example of a *positive correlation*, *negative correlation*, or *no correlation*?
7. Describe the motion of the car indicated in the velocity-time graph below.

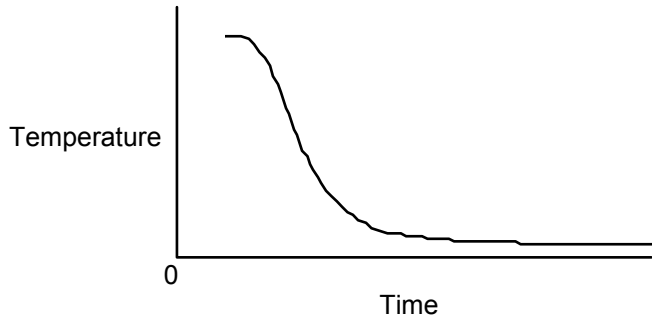


8. The graph shows the relationship between time and distance traveled.



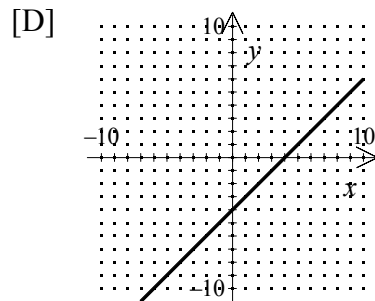
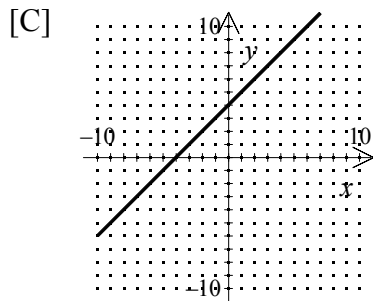
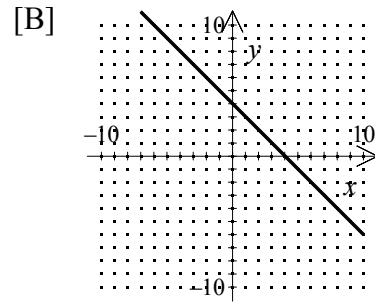
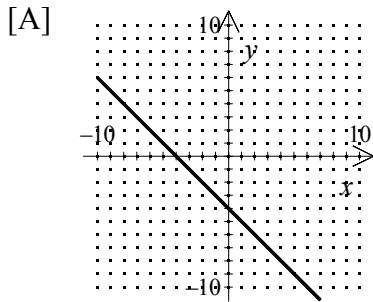
Describe a situation that the graph might show.

9. The graph shows the temperature during a recent thunderstorm. Describe what happened to the temperature during the storm.

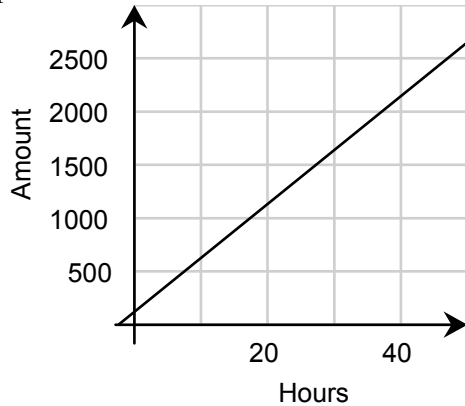


10. Which of the following graphs is the graph of the pairs of numbers in the table?

x	0	3	6	9
y	4	7	10	13



11. Use the problem solving strategy *Use a Graph* to determine the amount of money a painter earns if she works for 45 hours painting a house.



12. Identify each variable as independent or dependent.
weight of a salmon, cost of a salmon
13. Identify the independent and dependent variables of a set of data that describes the weight of bananas and the cost of bananas. Explain.
14. Determine if the relation is a function.

x	1	2	3	4
y	3	6	9	12

15. Determine if the relation is a function.

x	-1	0	-1	-4
y	-1	0	1	2

16. Determine which relation is a function.

[A]

x	-4	5	-4	1
y	-2	5	2	8

[B]

x	-1	0	-1	-4
y	-1	0	1	2

[C]

x	1	2	3	4
y	1	4	9	16

[D]

x	-1	0	-1	2
y	-2	2	3	2

17. What is the range of the function $y = -2x^2 + x$ when the domain is $\{1, 3, 5\}$?

[A] $\{-3, -9, -5\}$

[B] $\{3, 9, 5\}$

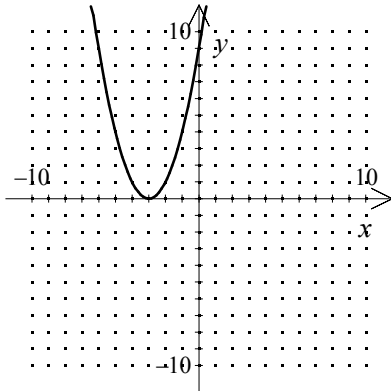
[C] $\{1, 15, 45\}$

[D] $\{5, 21, 55\}$

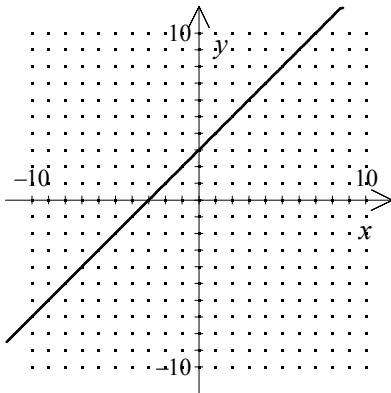
[E] $\{-1, -15, -45\}$

18. Evaluate the function rule $y = 3x^2 - 5x + 5$ for $x = 2$.

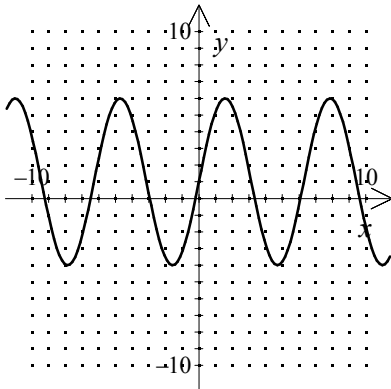
19. Does the graph represent a function? Why or why not?



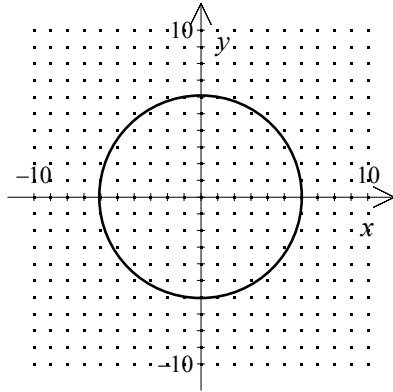
20. Does the graph represent a function? Why or why not?



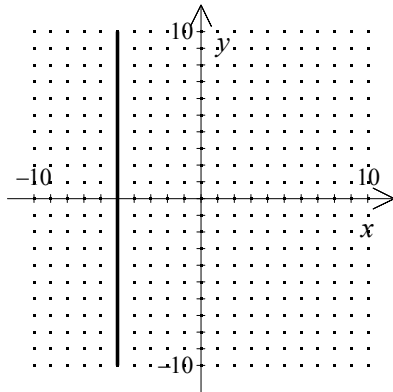
21. Does the graph represent a function? Why or why not?



22. Does the graph represent a function? Why or why not?



23. Does the graph represent a function? Why or why not?



24. Write a function rule for the table.

n	2	3	4	5
$f(n)$	4	9	16	25

[A] $f(n) = n^3$

[B] $f(n) = 3n$

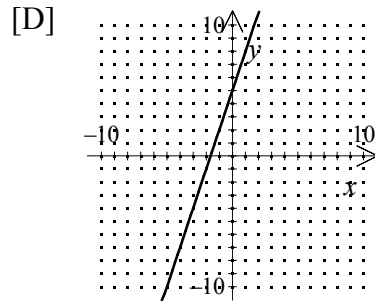
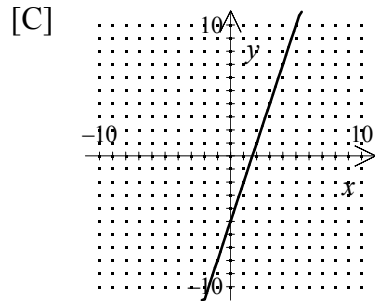
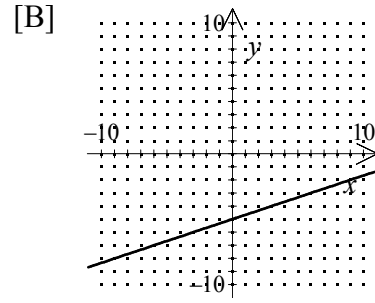
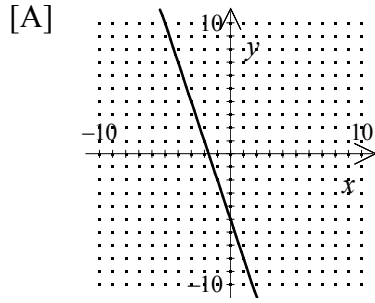
[C] $f(n) = n^2$

[D] $f(n) = 3 - n$

25. Write a rule for the following function represented by the table.

n	3	4	5	6
$f(n)$	9	16	25	36

26. Which of the following represents the graph of $g(x) = 3x - 5$?



27. Which function is modeled by the table?

x	-5	0	1	3
y	-9	1	3	7

[A] $f(x) = x + 3$

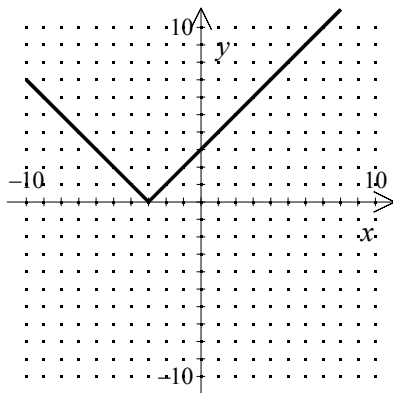
[B] $f(x) = -x + 4$

[C] $f(x) = 2x + 1$

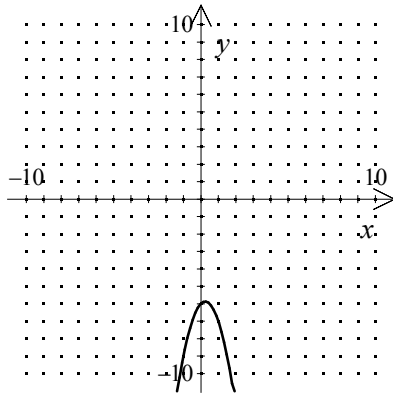
[D] $f(x) = 3x$

[E] $f(x) = x - 3$

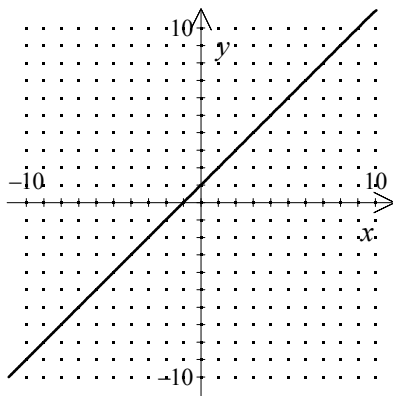
28. To what family of functions does the graph belong?



29. To what family of functions does the graph belong?



30. To what family of functions does the graph belong?



31. Find the slope of the line passing through the points $(-2, 5)$ and $(6, 4)$.

32. Find the slope of the line passing through the points $(3, -7)$ and $(8, 1)$.

33. A line has a slope of $\frac{5}{2}$. Through which two points could this line pass?

[A] $(2, -4), (4, -1)$

[B] $(6, 3), (4, 1)$

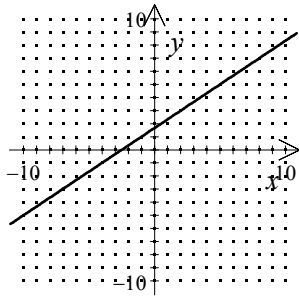
[C] $(2, -4), (4, 1)$

[D] $(-2, -4), (-4, 1)$

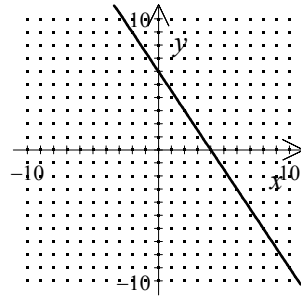
[E] none of the above

34. A line goes through the point $(2, 3)$ and has slope $\frac{3}{2}$. Graph this line.

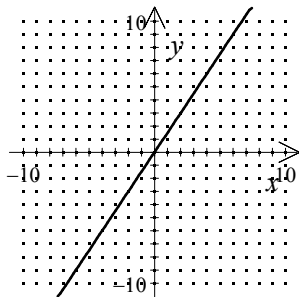
[A]



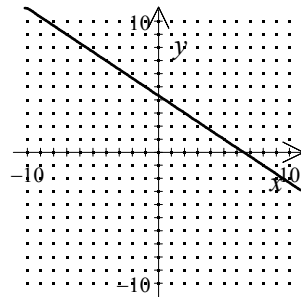
[B]



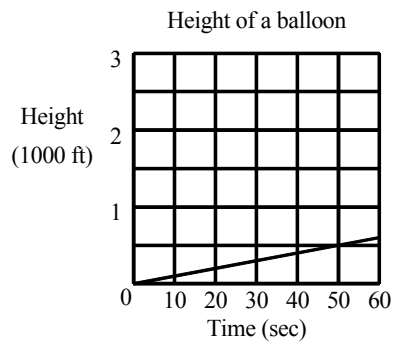
[C]



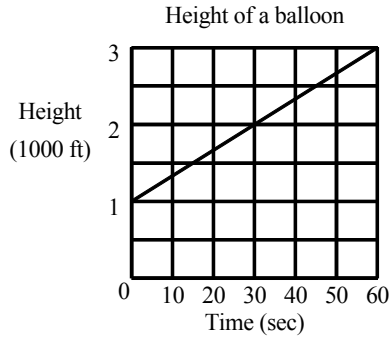
[D]



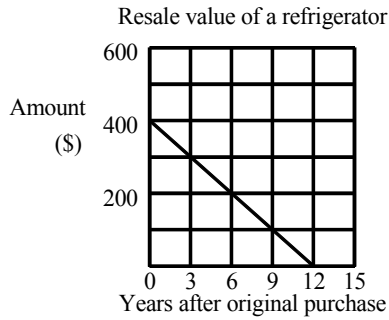
35. Find the rate of change for the data graphed on the line.



36. Find the rate of change for the data graphed on the line.



37. Find the rate of change for the data graphed on the line.

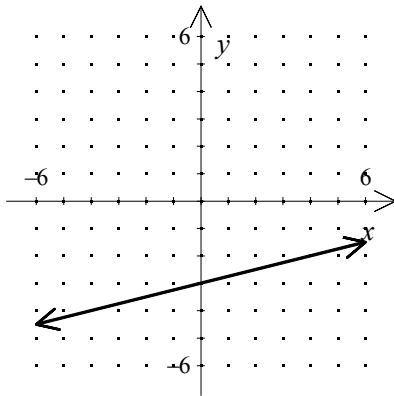


- [A] $-\frac{100}{1}$, value drops \$900 every 9 yrs [B] $-\frac{30}{1}$, value drops \$270 every 9 yrs
 [C] $-\frac{100}{3}$, value drops \$300 every 9 yrs [D] $-\frac{10}{1}$, value drops \$90 every 9 yrs

38. Write an equation of the line with slope -4 and y -intercept 0 .

39. Write an equation of the line with slope 3 and y -intercept 7 .

40. Which equation is correct for the line graphed below?



- [A] $y = -\frac{1}{4}x + 3$ [B] $y = -\frac{1}{4}x - 3$ [C] $y = \frac{1}{4}x - 3$
 [D] $y = 4x + 3$ [E] $y = -4x - 3$

41. Write an equation of the line that passes through the point $(-3, 3)$ with slope -1 .

42. Find an equation for the line with undefined slope and passing through the point $(-6, -1)$.

43. Write the standard form of the equation of the line with slope 0 passing through the point $(-2, -3)$.

- [A] $x + 3 = 0$ [B] $x + 2 = 0$ [C] $y + 3 = 0$ [D] $y + 2 = 0$

44. Which equation is correct for a line through $(5, -3)$ with slope 0.75 ?

- [A] $y = -\frac{3}{4}x + \frac{27}{4}$ [B] $y = \frac{3}{4}x - 3$ [C] $y = \frac{3}{4}x - \frac{27}{4}$
 [D] $y = \frac{3}{4}x - \frac{4}{5}$ [E] $y = -\frac{3}{4}x + \frac{4}{5}$

45. Give the equation of the line that contains $(-7, 3)$, and $(-9, 3)$.

- [A] $x = -7$ [B] $y = \frac{6}{7}x + 9$ [C] $y = 3$ [D] $y = \frac{6}{7}x - 28$

46. Which equation is $y = \frac{2}{3}x - 5$ written in $Ax + By = C$ form?

[A] $2x + 3y = -5$

[B] $6x + 3y = 15$

[C] $6x - 3y = -15$

[D] $2x - 3y = 15$

[E] $2x + 3y = 15$

47. Write the slope-intercept form of the equation of the line passing through the point $(5, 0)$ and parallel to the line $y = -3x + 6$.

48. Give the slope-intercept form of the equation of the line that is perpendicular to $7x + 3y = -1$ and contains $(1, 7)$.

49. Determine if the two lines $7x + 8y = 56$ and $y = \frac{8}{7}x - 3$ are *parallel*, *perpendicular*, or *neither*.

50. Which of the following lines is *not* parallel to $y = -3x - 6$?

[A] $-3y - x = 4$

[B] $-3x - y = 4$

[C] $y + 3x = -6$

[D] $-6x - 2y = 4$