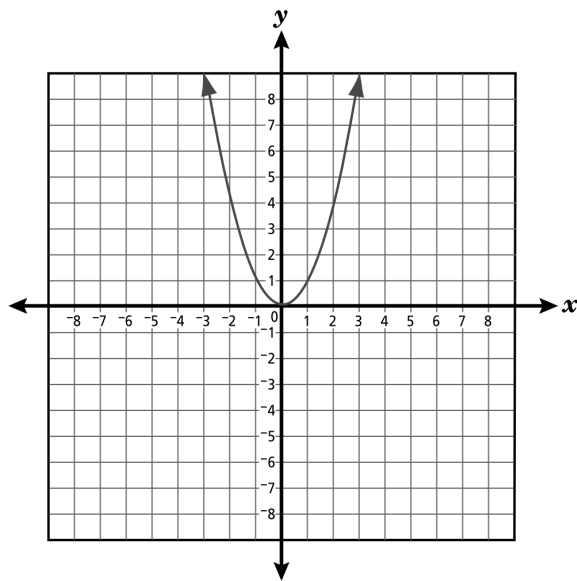


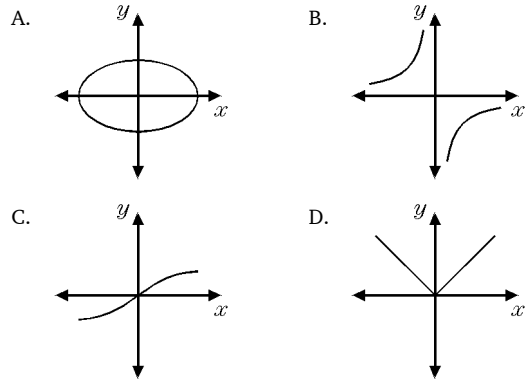
- What is the value of n in the equation $3n - 8 = 32 - n$?
- If $L = \frac{1}{2}(P - 2W)$, solve for P in terms of L and W .
- The solution to $|3x - 4| > 5$ is
 - $x > 3$ or $x < -\frac{1}{3}$
 - $x \geq 3$ or $x \leq -\frac{1}{3}$
 - $x < 3$ and $x > -\frac{1}{3}$
 - $x \leq 3$ and $x \geq -\frac{1}{3}$
- The solution of $|3x - 2| < 4$ is
 - $-\frac{2}{3} < x < 2$
 - $x < 2$
 - $x > -\frac{2}{3}$
 - $x < -\frac{2}{3}$ or $x > 2$
- The solution of $|2x - 3| < 5$ is
- Solve for x in terms of b and c : $2x - b = c$
- Study the graph of $y = x^2$, shown below.



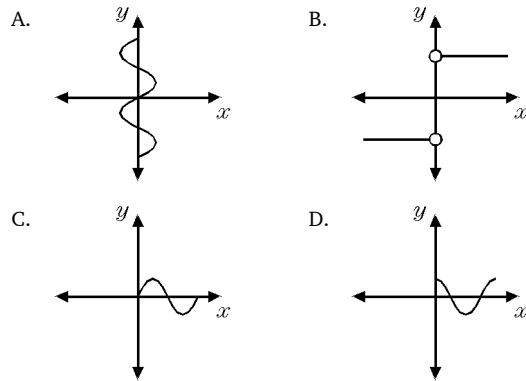
If the graph is moved up 3 units, what equation will it represent?

- Solve for a in terms of b and c : $3a + 4b = c$

- Which diagram is not the graph of a function?



- Which diagram shows a relation that is *not* a function?



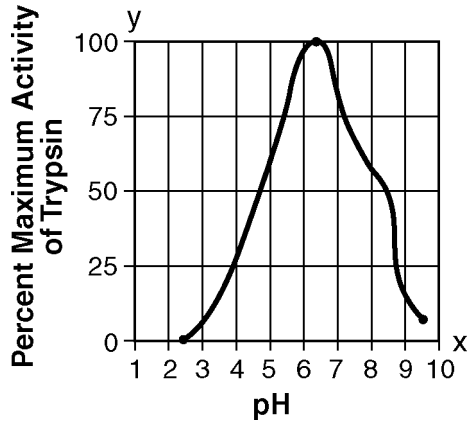
- Which graph of a relation is also a function?

- If $f(x) = -2x^2 + 6$, find the value of $f(-3)$.

- If $f(x) = x^2 + 3x - 5$, find the value of $f(3)$.

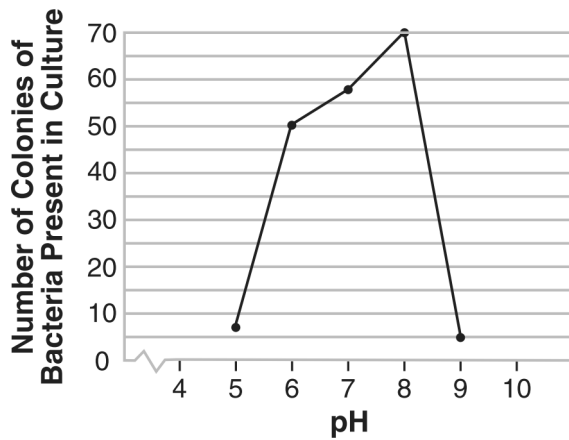
- If $f(x) = 2x^3 + 4x^2$, find $f(-3)$.

15. Data collected during an experiment are shown in the accompanying graph.



What is the range of this set of data?

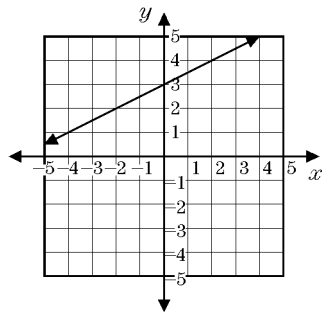
16. The accompanying graph illustrates the presence of a certain strain of bacteria at various pH levels.



What is the range of this set of data?

17. Which equation represents line ℓ , shown in the accompanying diagram?

- A. $y = 2x + 3$
 B. $y = \frac{1}{2}x + 3$
 C. $y = 3x + \frac{1}{2}$
 D. $y = 3x + 2$



18. What is the value of m in the equation $2m - (m + 1) = 0$?

19. Which diagram represents the graph of the equation $y = 2x - 1$?

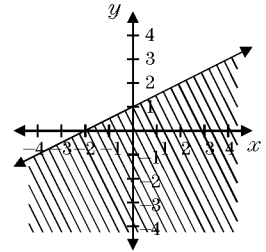
20. Which ordered pair is in the solution set of $y \geq 2x + 3$?

- A. (1,4) B. (3,2) C. (0,5) D. (0,0)

21. A cellular telephone company has two plans. Plan A charges \$11 a month and \$0.21 per minute. Plan B charges \$20 a month and \$0.10 per minute. After how much time, to the nearest minute, will the cost of plan A be equal to the cost of plan B?

22. The graph of which inequality is shown in the accompanying diagram?

- A. $y > \frac{1}{2}x + 1$
 B. $y \geq \frac{1}{2}x + 1$
 C. $y < \frac{1}{2}x + 1$
 D. $y \leq \frac{1}{2}x + 1$



23. Solve for x : $2x - 5 = 4x + 7$

24. Solve the following systems of equations for x :

$$\begin{aligned} 2x + 3y &= 5 \\ 4x - 3y &= 1 \end{aligned}$$

25. Solve the following system of equations graphically and check:

$$\begin{aligned} 3x + y &= 3 \\ y &= 2x - 7 \end{aligned}$$

26. Which ordered pair is the solution to this system of equations?

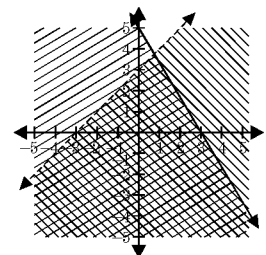
$$\begin{aligned} y &= x + 4 \\ x + y &= 2 \end{aligned}$$

- A. (1,5) B. (0,2) C. (-1,3) D. (-4,0)

27. If $bx - 2 = K$, then x equals

28. Which ordered pair is in the solution set of the system of inequalities shown in the graph?

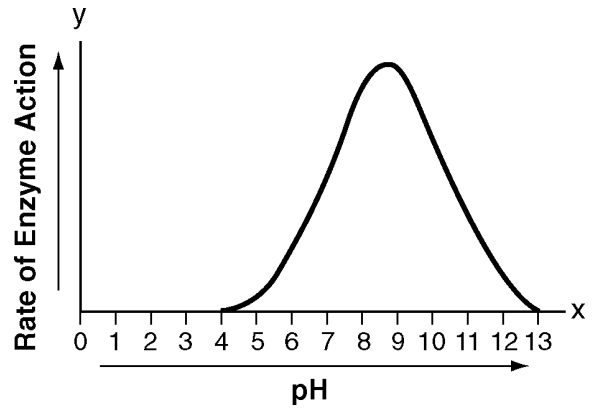
- A. (0,0) B. (1,5)
 C. (-3,3) D. (3,3)



29. Which ordered pair is in the solution set of the system of inequalities $y \leq 3x + 1$ and $x - y > 1$?

- A. $(-1, -2)$ B. $(2, -1)$ C. $(1, 2)$ D. $(-1, 2)$

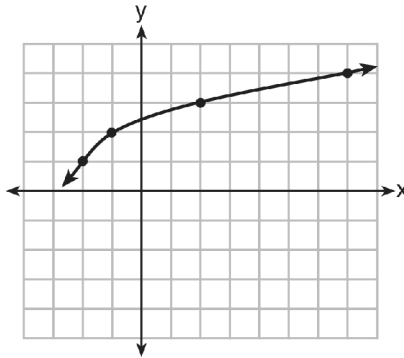
30. The effect of pH on the action of a certain enzyme is shown on the accompanying graph.



What is the domain of this function?

31. The cost of three notebooks and four pencils is \$8.50. The cost of five notebooks and eight pencils is \$14.50. Determine the cost of one notebook and the cost of one pencil.

32. The graph of $y = f(x)$ is shown below.



What is the graph of $y = f(x + 1) - 2$?

33. Which chart could represent the function $f(x) = -2x + 6$?

A.

x	$f(x)$
0	6
2	10
4	14
6	18

B.

x	$f(x)$
0	4
2	6
4	8
6	10

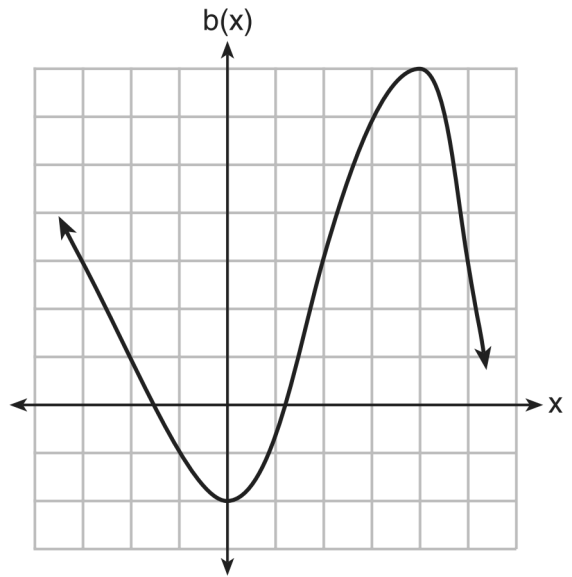
C.

x	$f(x)$
0	8
2	10
4	12
6	14

D.

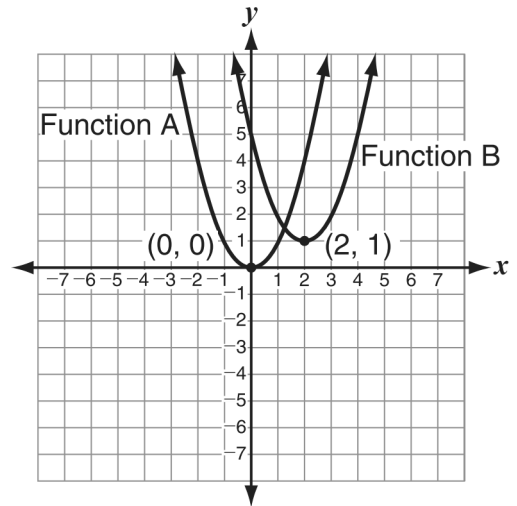
x	$f(x)$
0	6
2	2
4	-2
6	-6

34. Richard is asked to transform the graph of $b(x)$ below.



The graph of $b(x)$ is transformed using the equation $h(x) = b(x - 2) - 3$. Describe how the graph of $b(x)$ changed to form the graph of $h(x)$.

35. The coordinate plane below shows the graphs of Function A and Function B.



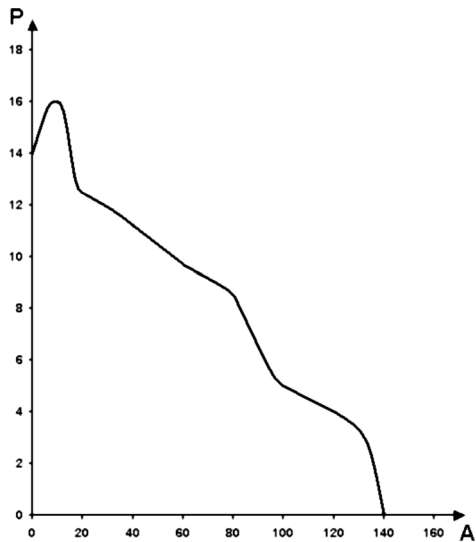
Which of these translations maps Function A onto Function B?

- A. Function A is translated 1 unit left and 2 units up.
- B. Function A is translated 2 units right and 1 unit up.
- C. Function A is translated 2 units left and 1 unit down.
- D. Function A is translated 1 unit right and 2 units down.

36. The graph of the function $f(x) = x^3$ will be shifted down 2 units and to the right 3 units. Which is the function that corresponds to the resulting graph?

- A. $g(x) = (x + 3)^3 + 2$ B. $g(x) = (x + 3)^3 - 2$
 C. $g(x) = (x - 3)^3 + 2$ D. $g(x) = (x - 3)^3 - 2$

37.



The graph represents the atmospheric pressure (P in PSI) as a function of altitude (A in 1000's of ft) as collected from a weather balloon on a rainy day. What is the range of the function?

38. Which statement is true about the equation below?

$$3(2 - k) = -3k + 2$$

- A. The equation has no solution.
 B. The equation has one solution.
 C. The equation has two solutions.
 D. The equation has infinitely

39. If x is a real number, for what values of x is the equation $\frac{3x-9}{3} = x-3$ true?

40. Which equation has infinitely many solutions?

- A. $3x - 5 = 3(5 + x)$ B. $3x - 5 = 3(5 - x)$
 C. $5(x + 3) = 3(x + 5)$ D. $5(x - 3) = -5(3 - x)$

41. **College Savings**

Juan's family is saving money for Juan to go to college. They currently have \$2,500 in the bank and save \$150 each month. Alex's family is also saving for college. They currently have \$900 in the bank and save \$250 per month.

How much will Alex's family have saved 3 years from now?

42. For a few months, Dexter recorded the amounts, in fluid ounces, of laundry detergent remaining, y , after he and his family washed x loads of laundry. The equation of the line of best fit for his data is shown below.

$$y = -1.6x + 50$$

Which statement correctly describes the slope of Dexter's equation of the line of best fit in the context of the situation?

- A. The bottle Dexter's family buys holds about 50 fluid ounces of detergent.
 B. For each load of laundry, Dexter's family uses about 1.6 fluid ounces of detergent.
 C. With 50 fluid ounces of detergent, Dexter's family can wash about 1.6 loads of laundry.
 D. With 1.6 bottles of laundry detergent, Dexter's family can wash about 50 loads of laundry.

43. After Zach made a bicycle trip in Colorado, he used the equation $y = \frac{1}{20}x + 5000$ to model y , his altitude in feet, in terms of x , the number of feet he bicycled. Which *best* describes the rate of change in altitude as he traveled?

- A. For every 5000 feet he traveled, the altitude increased $\frac{1}{20}$ foot.
 B. For every 20 feet he traveled, the altitude increased 1 foot.
 C. For every 20 feet he traveled, the altitude increased 250 feet.
 D. For every foot he traveled, the altitude increased 20 feet.

44. Every day when commuting to and from work, Jay drives his car a total of 45 miles. His car already has 2,700 miles on it.

Which function shows the total number of miles Jay's car will have been driven after n more days?

- A. $d(n) = 60$ B. $d(n) = 60n$
 C. $d(n) = 45 + 2,700$ D. $d(n) = 2,700 + 45n$

45. How does the graph of the function $f(x) = x^3 + 1$ compare to the parent function $f(x) = x^3$?

1.
Answer: 10

2.
Answer: $2L + 2W$

3.
Answer: A

4.
Answer: A

5.
Answer: $-1 < x < 4$

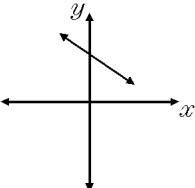
6.
Answer: $\frac{b + c}{2}$

7.
Answer: $y = x^2 + 3$

8.
Answer: $\frac{c - 4b}{3}$

9.
Answer: A

10.
Answer: A

11.
Answer: 

12.
Answer: -12

13.
Answer: 13

14.
Answer: -18

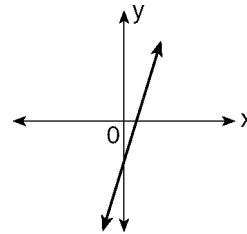
15.
Answer: $0 \leq y \leq 100$

16.
Answer: $5 \leq y \leq 70$

17.
Answer: B

18.
Answer: 1

19.
Answer:



20.
Answer: C

21.
Answer: 1 hr 22 min

22.
Answer: C

23.
Answer: -6

24.
Answer: 1

25.
Answer: [graph]

26.
Answer: C

27.
Answer: $\frac{K + 2}{b}$

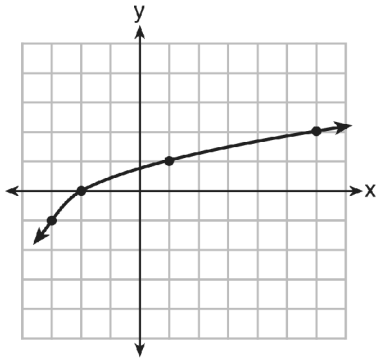
28.
Answer: A

29.
Answer: B

30.
Answer: $4 \leq x \leq 13$

31.
Answer: One notebook= \$2.50 and one pencil= \$0.25, and appropriate algebraic work is shown.

32.
Answer:



33.
Answer:

D

34.
Answer:

[description]

35.
Answer:

B

36.
Answer:

D

37.
Answer:

0 to 16 PSI

38.
Answer:

A

39.
Answer:

all values of x .

40.
Answer:

D

41.
Answer:

42.
Answer:

B

43.
Answer:

B

44.
Answer:

D

45.
Answer:

shifted up 1 unit