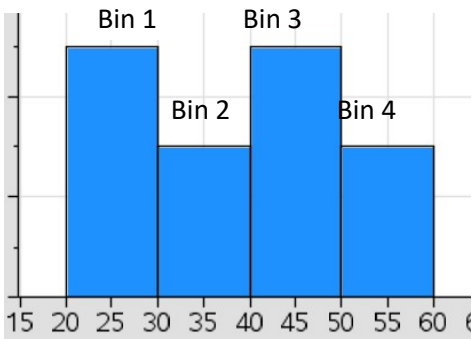
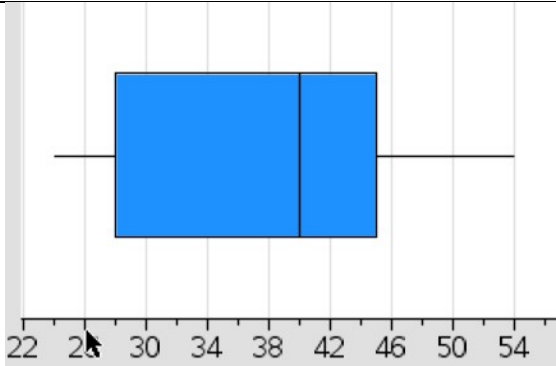
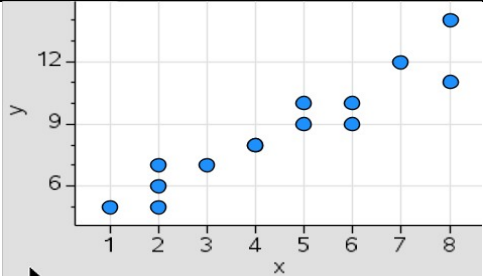
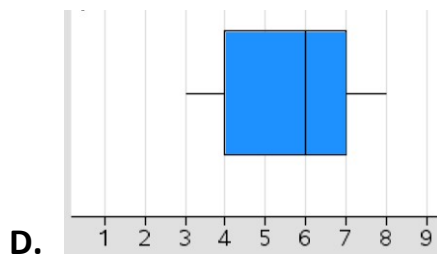
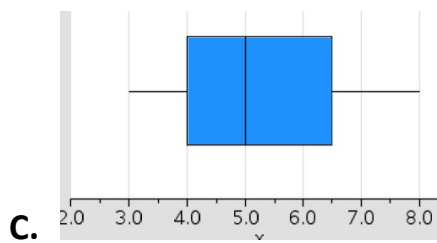
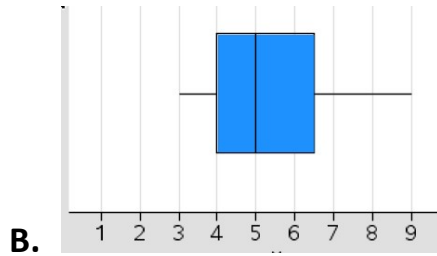
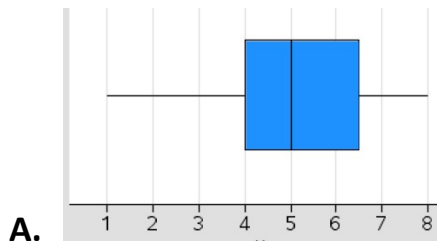
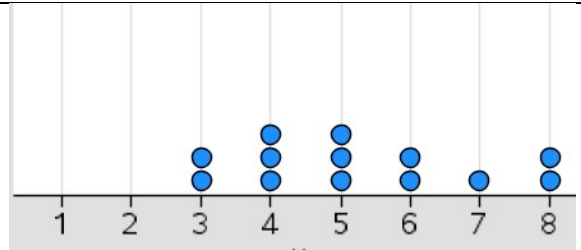


<p>1. To find the range for the data shown in this histogram what values would we need to know?</p> <p>A. The greatest value in Bin 1 and the lowest value in Bin 4</p> <p>B. The IQR for the data set</p> <p>C. The how many values are in each bin</p> <p>D. The lowest value in Bin 1 and the greatest value in Bin 4</p>																	
<p>2. Based on this Box and Whiskers plot which of these values would be the greatest?</p> <p>A. Q2</p> <p>B. IQR</p> <p>C. Range</p> <p>D. Median</p>																	
<p>3. Based on the table shown here how many more girls than boys selected math as their favorite class?</p> <p>A. 3</p> <p>B. 10</p> <p>C. 21</p> <p>D. 45</p>	<p>Favorite class, Math or English?</p> <table border="1" data-bbox="979 1108 1328 1323"> <thead> <tr> <th></th> <th>Girls</th> <th>Boys</th> <th>Total</th> </tr> </thead> <tbody> <tr> <th>Math</th> <td>24</td> <td></td> <td></td> </tr> <tr> <th>Eng.</th> <td></td> <td></td> <td>55</td> </tr> <tr> <th>Total</th> <td>47</td> <td></td> <td>100</td> </tr> </tbody> </table>		Girls	Boys	Total	Math	24			Eng.			55	Total	47		100
	Girls	Boys	Total														
Math	24																
Eng.			55														
Total	47		100														
<p>4. Based on the scatter plot which statement would be true?</p> <p>A. This data has a strong positive correlation</p> <p>B. This data has a weak positive correlation</p> <p>C. This data has a strong negative correlation</p> <p>D. This data has a weak negative correlation</p>																	

<p>5.</p>	<p>You have this set of numbers: 2, 3,5,4, 3, 6, 8, n What would the last value for this set of numbers need to be for the items to the right to be true?</p> <p>A. 3 B. 5 C. 7 D. 9</p>	<p>Mean = 4.75 Median = 4.5 Mode = 3 Range = 6</p>																		
<p>6.</p>	<p>Based on the data shown to the right, which of these situations is more likely to happen?</p> <p>A. Have a Monday meeting with 34 people in attendance B. Have a Tuesday meeting with 24 people in attendance C. Have a Wednesday meeting with 31 people in attendance D. Have a Friday meeting with 22 people in attendance</p>	<p>Number of Students at an after school meeting based on the day of the week</p> <table border="1" data-bbox="846 684 1458 1012"> <thead> <tr> <th>Day</th> <th>Average Attendance</th> <th>Standard Deviation</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>24</td> <td>2.5</td> </tr> <tr> <td>Tuesday</td> <td>30</td> <td>3</td> </tr> <tr> <td>Wednesday</td> <td>35</td> <td>4</td> </tr> <tr> <td>Thursday</td> <td>32</td> <td>3</td> </tr> <tr> <td>Friday</td> <td>14</td> <td>2</td> </tr> </tbody> </table>	Day	Average Attendance	Standard Deviation	Monday	24	2.5	Tuesday	30	3	Wednesday	35	4	Thursday	32	3	Friday	14	2
Day	Average Attendance	Standard Deviation																		
Monday	24	2.5																		
Tuesday	30	3																		
Wednesday	35	4																		
Thursday	32	3																		
Friday	14	2																		
<p>7.</p>	<p>Joey asked 10 students how many hours of TV did they watch last week. The responses are shown to the right. He decided to ignore all answers of 2 hours or less. For the remaining responses, what was the average hours watched?</p> <p>A. 8 B. 9.30 C. 11.25 D. 11.50</p>	<p>How many hours of TV did you watch last week?</p> <p>14, 9, 2, 11, 12, 1, 13, 10, 12, 9</p>																		


8. Which of these Box and Whiskers Plots would match the number line plot shown to the right



9. Which of these expressions is equivalent to the expression to the right?

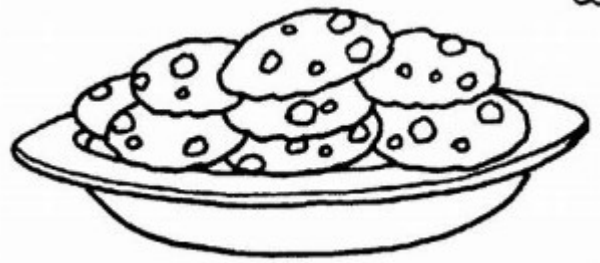
- A.** $8x^2 + 15x + 12$
- B.** $2x^2 + 9x + 12$
- C.** $2x^2 + 15x + 12$
- D.** $8x^2 + 9x + 3$

$$5x^2 + 4(2x + 3) + 7x - 3x^2$$

<p>10. Sam solved the equation shown to the right. What mistake, if any, did he make?</p> <p>A. He added 3 when he should have subtracted</p> <p>B. He failed to use the distributive property by multiplying 5 time 3</p> <p>C. He divided incorrectly</p> <p>D. There were no mistakes in this problem</p>	$5(x - 3) = 25$ $5x - 3 = 25$ $+3 \quad +3$ $5x = 28$ $\div 5 \quad \div 5$ $x = \frac{28}{5}$
<p>11. Allan Wrote the expression on the left to show how much money he would make from selling cookies after he subtracts the cost of the cookies. Which of these statements would <u>NOT</u> be true about this situation?</p> <p>A. The price of the cookies is 75 cents</p> <p>B. The variable "x" represents the number of cookies sold</p> <p>C. The profit for the whole sale is \$12.50</p> <p>D. The cost of the cookies is \$12.50</p>	$p = .75x - 12.50$
<p>12. Shelly made an \$85 dollar profit on the Halloween gram fundraiser. Each gram sold for \$2. The cost of the materials totaled \$23. How many grams were sold?</p> <p>A. 31</p> <p>B. 54</p> <p>C. 62</p> <p>D. 108</p>	

13. Robert needs to buy cookies for his study group. He needs two cookies for each member and knows he should get at 10 extra to be safe. If m represents the number of members and c represents the number of cookies, which equation would Robert use to order the correct number of cookie?

- A. $m = 2c - 10$
- B. $c = 2m - 10$
- C. $m = 2c + 10$
- D. $c = 2m + 10$



14. Solve the equation shown to the right

- A. $x = \frac{27}{6}$
- B. $x = 7$
- C. $x = 13$
- D. $x = \frac{37}{6}$

$$2(3x - 5) = 32$$

15. Solve the inequality shown to the right

- A. $x \leq 4$
- B. $x \geq 4$
- C. $x \leq -4$
- D. $x \geq -4$

$$-3x - 5 \leq -17$$

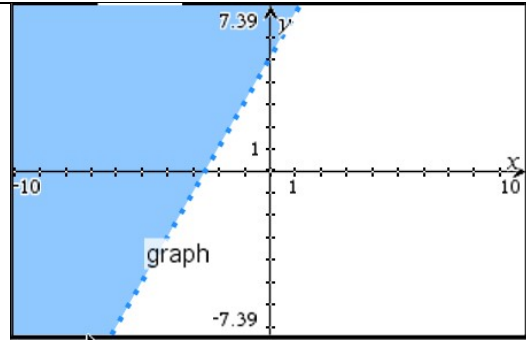
16. Which rule would best fit this input-output table?

- A. Add 3
- B. Add 5
- C. Multiply by 3 and subtract 1
- D. Multiply by 2 and add 1

Input	Output
2	5
3	8
4	11
5	14

17. Which of the inequalities would best fit the graph shown to the right?

- A. $y > 2x + 5$
- B. $y < 2x + 5$
- C. $y > -2x + 5$
- D. $y < -2x + 5$



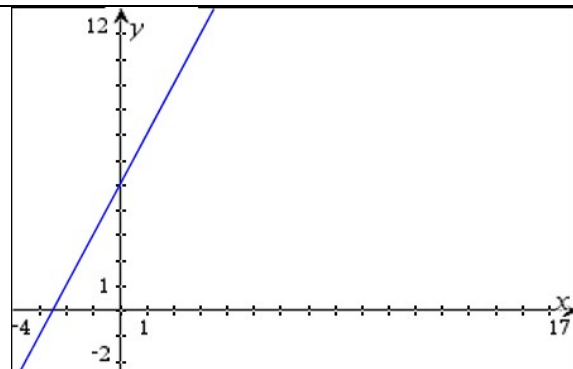
18. Which of these situations would best fit the inequality shown to the right?

- A. You need at least 3 cookies per person with 6 extras just in case
- B. You need at least 6 cookies per person with 3 extras just in case
- C. You need at most 3 cookies per person with 6 extras just in case
- D. You need at most 6 cookies per person with 3 extras just in case

$$y \leq 3x + 6$$

19. Which situation below would match the graph shown to the right?

- A. You have 5 cats. Every month 2 new cats show up at your house.
- B. You have a pool cleaning business with 5 current customers. You plan to add 2 new customers each month.
- C. A tree is currently 5 feet high. It will grow 2 feet taller every year.
- D. You have 2 dollars in an account. You will make 5 dollars more each week.



20. You have a job washing dishes at a restaurant. You have 360 dishes to wash. How many dishes do you need to wash each hour if you want to be done in 3 hours?

- A. 100
- B. 120
- C. 150
- D. 180



21. Alejandro collected some data related to speed limits and number of car crashes. The data is shown in the table to the right. If m is the speed limit and c is the number of crashes, which of these equations would best fit this set of data?

- A. $c = 4m - 10$
- B. $c = m + 80$
- C. $c = 3m + 20$
- D. $c = 2m + 40$

Speed Limit	Number of crashes
30	110
40	140
50	170
60	200
70	230

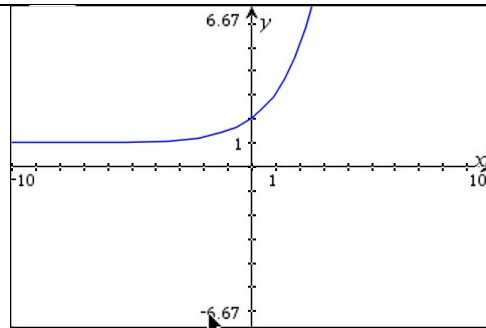
22. Tasha has 3 more red shirts than she has purple shirts. Her total red and purple shirts equal 9. How many red shirts does she have?

- A. 3
- B. 6
- C. 9
- D. 15



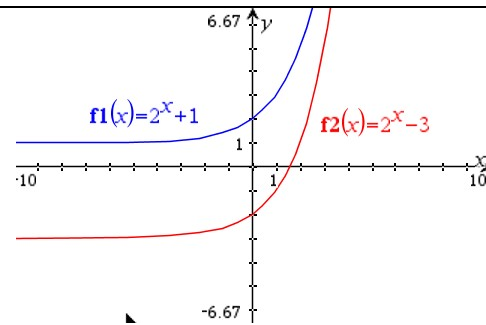
23. The graph to the right would be a graph from what type of equation?

- A. Linear
- B. Quadratic
- C. Exponential
- D. Piecewise



24. For the graphs shown to the right, what transformation of f_1 will result in f_2 ?

- A. Vertical shift 4 units up
- B. Vertical shift 4 units down
- C. Horizontal Shift 2 units right
- D. Horizontal Shift 2 units left



25. A colony of cats was observed over a period of time to chart the population growth. The data for the observations is shown to the right. Which equation would best fit this group of data?

- A. $y = 10(1.5^x)$
- B. $y = 12(1.5^x)$
- C. $y = 10(2^x)$
- D. $y = 12(2^x)$

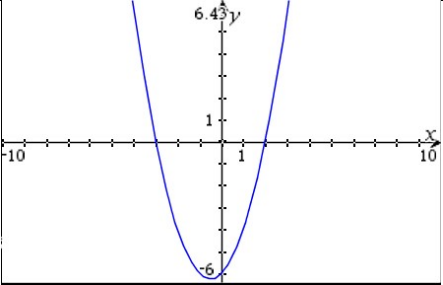
Cat Population

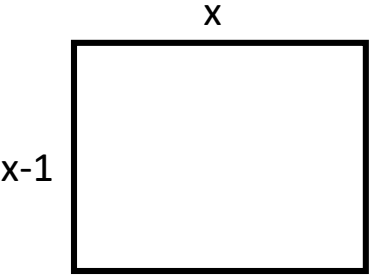
Year	Cats
0	12
1	18
2	27
3	40
4	60

26. The first 4 terms in a sequence are shown to the left, what would be the 7th term?

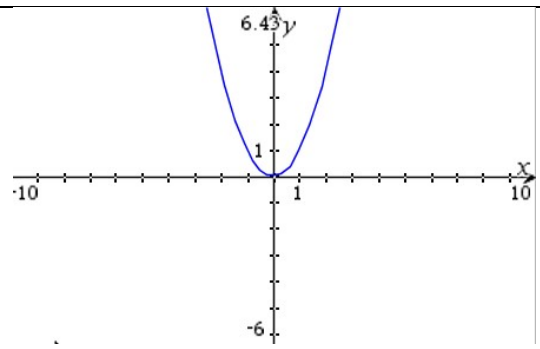
- A. 10
- B. 13
- C. 16
- D. 20

-2, 1, 4, 7, ...

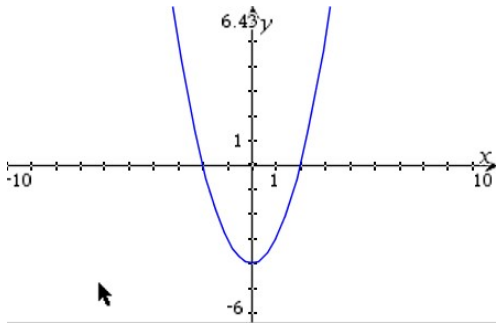
27.	<p>Which of these equations is equivalent to the equation shown to the right?</p> <p>A. $3x(x + 6) = 0$ B. $3(x + 6)(x - 1) = 0$ C. $3(x + 3)^2 = 0$ D. $3(x + 3)(x + 2) = 0$</p>	$3x^2 + 15x + 18 = 0$
28.	<p>Fully factor the expression on the right</p> <p>A. $5(x + 9)(x - 1)$ B. $5(x + 3)(x - 3)$ C. $5(x + 3)(x + 3)$ D. $5(x - 3)(x - 3)$</p>	$5x^2 - 45$
29.	<p>Tyrone tried to factor a problem on his math test but his teacher only gave him partial credit. His answer is shown to the right. What would he need for his answer to get full credit?</p> <p>A. $5x(x^2 - 7x - 30)$ B. $5(x^2 - 10x)(x + 3)$ C. $5x(x^2 + 10)(x - 3)$ D. $5x(x^2 - 10)(x + 3)$</p>	$5(x^3 - 7x^2 - 30x)$
30.	<p>Using the graph to the right, what are the zeros to this quadratic equation?</p> <p>A. 3 and 2 B. -3 and -2 C. 3 and -2 D. -3 and 2</p>	

31.	<p>Part A. Based on the diagram to the right, create an equation if the area of the rectangle is 30 square units.</p> <p>Part B. Determine the value of x for this situation</p>	 <p>A rectangle is shown with its horizontal side labeled x and its vertical side labeled $x-1$.</p>
32.	<p>Based on the two quadratic equations shown on the right, how would the graph of y_2 be different from the graph of y_1?</p> <p>A. Horizontal shift 5 units to the left B. Horizontal shift 5 units to the right C. Vertical shift 5 units up D. Vertical shift 5 units down</p>	$y_1 = x^2 + 3$ $y_2 = (x + 5)^2 + 3$
33.	<p>Which of these equations is equivalent to the equation on the right?</p> <p>A. $(x + 4)^2 = 16$ B. $(x - 4)^2 = 16$ C. $(x + 4)^2 = 23$ D. $(x - 4)^2 = 33$</p>	$x^2 + 8x + 5 = 12$

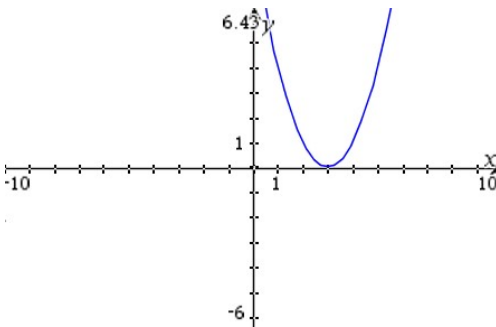
34. The graph of $y = x^2$ is shown to the right. Which of these below would be the graph of $y = (x - 3)^2 - 4$?



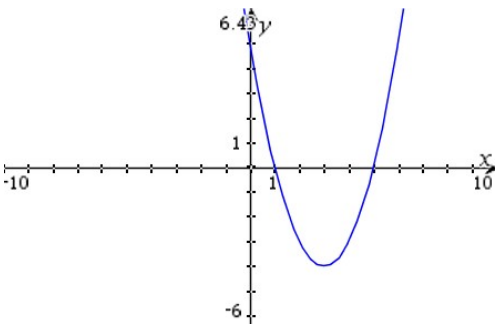
A.



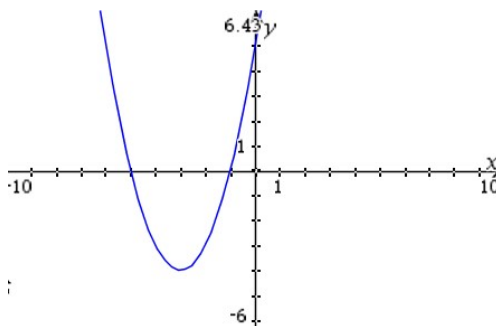
B.

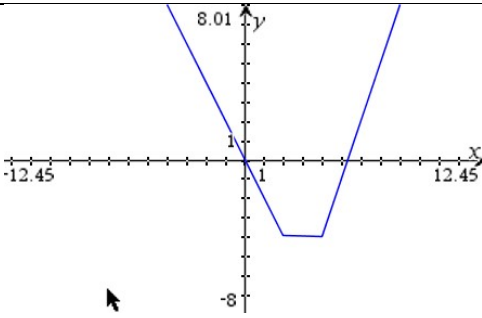


C.



D.



35.	<p>Solve the quadratic equation shown on the right. Give your solution(s) in simplified radical form.</p> <p>A. $\{5 + \sqrt{33}, 5 - \sqrt{33}\}$ B. $\{-5 + \sqrt{33}, -5 - \sqrt{33}\}$ C. $\{5 + 4\sqrt{3}, 5 - 4\sqrt{3}\}$ D. $\{-5 + \sqrt{133}, -5 - \sqrt{133}\}$</p>	$x^2 + 10x + 6 = 14$
36.	<p>Ricardo solved a quadratic equation by completing the square. His work is shown on the right. What was the first mistake he made?</p> <p>A. He should have added 7 B. He did not take half of 8 to square C. $18+64$ does not equal 82 D. He should have gotten $(x-8)^2$</p>	$x^2 + 8x + 7 = 25$ $-7 \quad -7$ $x^2 + 8x + _ = 18 + _$ $+ 64 \quad + 64$ $x^2 + 8x + 64 = 82$ $(x + 8)^2 = 82$ $x + 8 = \pm\sqrt{82}$ $x = -8 \pm \sqrt{82}$
37.	<p>Based on the graph to the right, for which domain values are the range values increasing?</p> <p>A. $x \leq 4$ B. $x \geq 4$ C. $x \leq -4$ D. $x \geq -4$</p>	
38.	<p>On the right is a recursive function. How would this be written as an explicit function?</p> <p>A. $4n+5$ B. $4n+1$ C. $5n+4$</p>	$f(1) = 5$ $f(n) = f(n-1) + 4$

D. n-3

39. For linear motion we know the formula that the distance traveled (d) is equal to the rate of travel (r) times the amount of time spent (t). If you were to write an equation to find the rate of travel what would that equation be?

A. $r = dt$

B. $r = \frac{d}{t}$

C. $r = \frac{t}{d}$

D. $r = d - t$



40. An airplane takes off and steadily gains altitude for the first 3 minutes. The plane then flies at a steady altitude for 10 minutes and then descends at a steady pace for 7 minutes to land. Which graph below would match this situation?

