Homework/Classwork

Algebraic Expressions Practice 1

Determine whether the statement is always true, sometimes true, or never true.

1. The expression $3x^2$ is a variable expression
2. In the expression $8y^3 - 4y$, the terms are $8y^3$ and $4y$
3. For the expression x^5, the value of x is 1
4. For the expression $6a + 7b$, 7 is a constant term

Name the constant term of the variable expression.

5. $2x^2 + 5x - 8$
7. $-3n^2 - 4n + 7$
8. $6 - a^4$

Name the variable terms of the expression.

9. $9b^2 - 4ab + a^2$
10. $7x^2y + 6xy^2 + 10$
11. $5 - 8n - 3n^2$

Name the coefficients of the variable terms.

12. $x^2 - 9x + 2$
13. $12a^2 - 8ab - b^2$
14. $n^3 - 4n^2 - n + 9$

Evaluate the variable expression when a = 2, b = 3, and c = -4

15. $3a + 2b$
16. $a - 2c$
17. $\frac{1}{3}b + c$
18. $\frac{3}{8}a - \frac{1}{2}b$
19. $-3a + 4b$
20. $3b - 3c$
21. $b - \frac{5}{8}c$
22. $-3c + 4$
23. $\frac{16}{c}$
24. $\frac{-6b}{a}$
25. $a^2 + b^2$
26. $(a + b)^2$

Homework/Classwork

Algebraic Expressions Practice

Name the constant term of the expression.

1. $3x^2 + 2x + 1$

2. $6p^3 - 4p + 5$

Name the variable terms of the expression.

3. $2xy + 8x^2y - 4y + 6$

4. $9mn + 2m - 3$

Name the coefficients of the variable terms.

5. $12ab^2 - 6ab + 5$

6. $-2s + 4t + 7$

Evaluate the variable expression when a = 5, b = 2 , and c = -3

7. $a + b$

8. $a - 3b$

9. $2a + c$

10. $b + 4c$

11. $-a + 3b + c$

12. $\frac{2}{3}a - c$

13. $\frac{1}{5}a - \frac{2}{4}b$

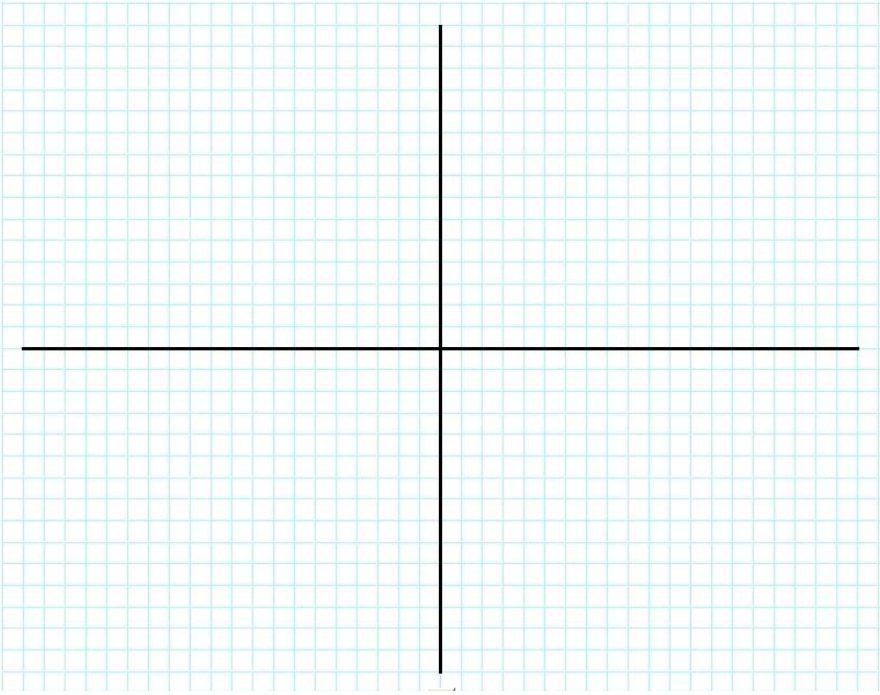
14. $a + \frac{1}{2}b + \frac{1}{4}c$

Homework/Classwork

Graphing/Analyzing Data Worksheet

The following table is made up of data from a recent trip I took. The miles designates how far I was from my house, the time represents the number of hours I had been driving. Decide what you'd like the *X* and *Y* axis to represent and label them accordingly. Plot the points and draw a line through them. Use all of the information to answer the questions that follow.

Time	Miles
5	250
2	100
4	200
3	150



1. What is the X-axis going to represent? _____
2. What is the Y-axis going to represent? _____
3. What are the increments that you are going use? (1's,5's,10's,100's,etc..)

   X:_____ Y: _____

4. What is your Y intercept? b:_____
5. What is your slope? m:_____
6. What does the slope represent in this problem? _____
7. What was my average speed? _____mph
8. What is the equation of your line? _____=_____+_____

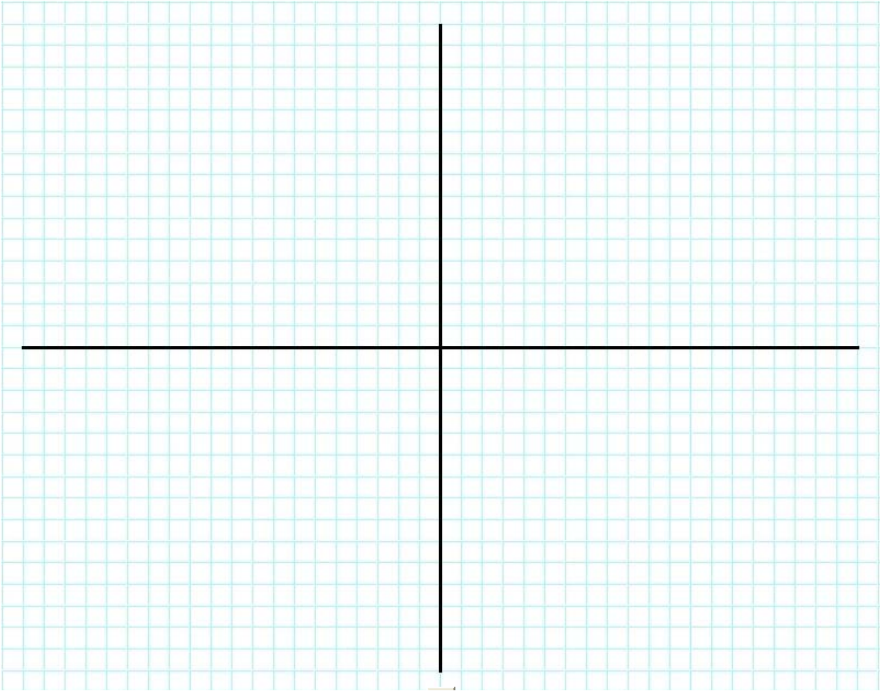
Please note:

In addition to the traditional assessments on the following pages, there will be a group report, a group presentation, and group members will split up points between themselves.

Graphing/Analyzing Data Quiz **Name:_____**

The following table is made up of data from t-shirt orders the school has made in the past. The 'Number' column designates how many were ordered, the cost represents the total cost of the order. Decide what you'd like the *X* and *Y* axis to represent and label them accordingly. Plot the points and draw a line through them. Use all of the information to answer the questions that follow.

Number	Cost
3	37
8	57
5	45
1	29



1. What is the X-axis going to represent? _____
2. What is the Y-axis going to represent? _____
3. What are the increments that you are going use? (1's,5's,10's,100's,etc..)

   X:_____ Y: _____

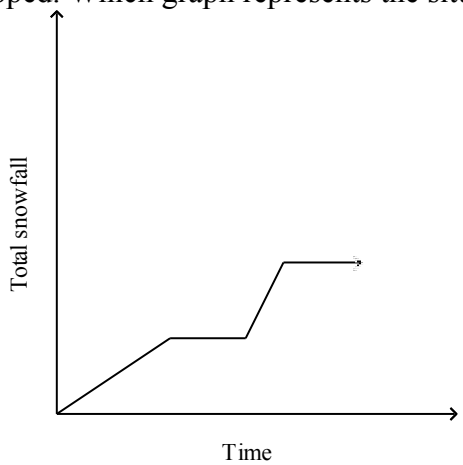
4. What is your Y intercept? b:_____
5. What do you think the Y intercept represents? _____
6. What is your slope? m:_____
7. What does the slope represent in this problem? _____
8. How much did each shirt cost?
9. What is the equation of your line? _____=_____+_____

Algebra Test #1 - Data Analysis

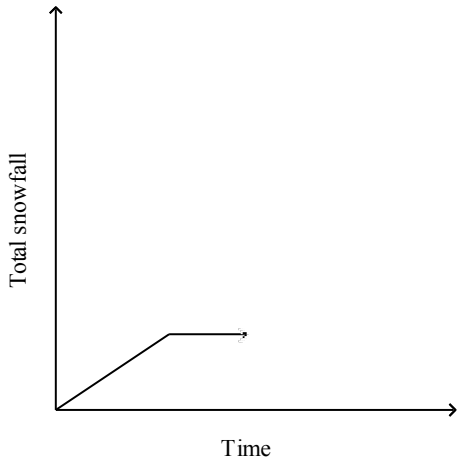
Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

____ 1) During a snowy day, it snowed lightly for a while, stopped for a while, snowed heavily, and then stopped. Which graph represents the situation?

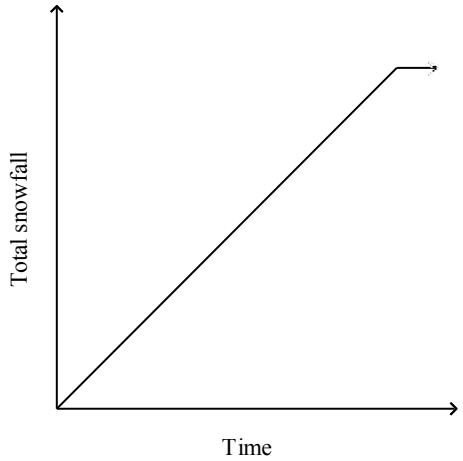
a.



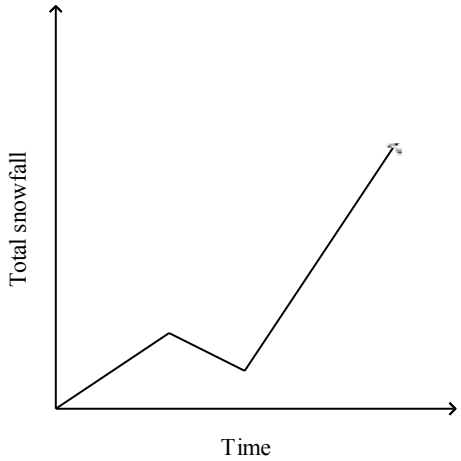
b.



c.



d.



Solve the equation. Then check your solution.

____ 2) $6 = -2(10n + 7)$
a. 1 b. 0.4 c. –1 d. 0.05

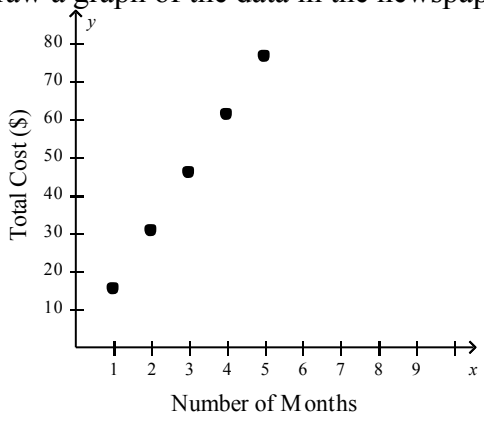
____ 3) $15(-42x + 40) = 15(-8x + 244)$
a. –6 b. 0.7 c. 6 d. 3

The following table shows the monthly charges for subscribing to the local newspaper.

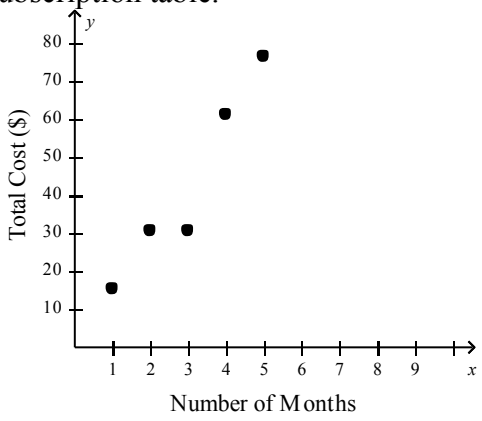
Number of Months	1	2	3	4	5
Total Cost ($)	15.25	30.50	45.75	61.00	76.25

____ 4) Draw a graph of the data in the newspaper subscription table.

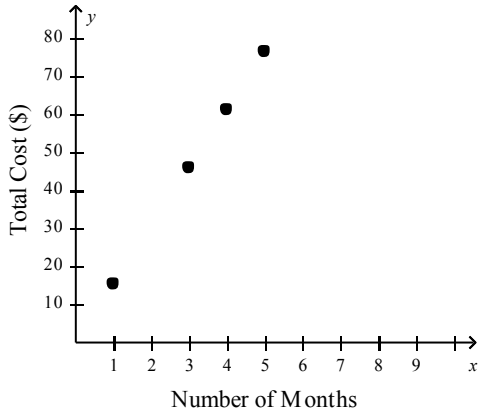
a.



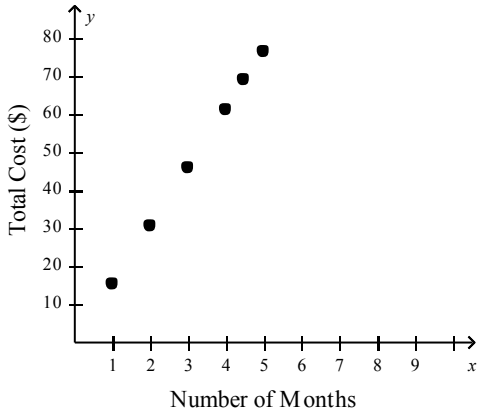
b.



c.



d.



____ 5) Identify the independent and dependent variables in the newspaper subscription table.

a. independent -- Total Cost
dependent -- Number of Months

b. independent -- Cost per Paper
dependent -- Number of Months

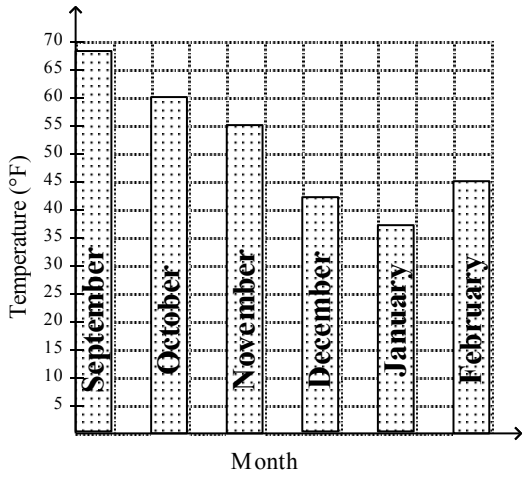
c. independent -- Total Cost
dependent -- Month of the Year

d. independent -- Number of Months
dependent -- Total Cost

____ 6) Use the data in the newspaper subscription table to find the cost of the subscription for a year.
a. $167.75 b. $183 c. $152.50 d. $182.90

The students in Mr. Johnson's science class recorded the average monthly high temperature for September through February. They used the data to draw the following bar graph.

Average Monthly High Temperature

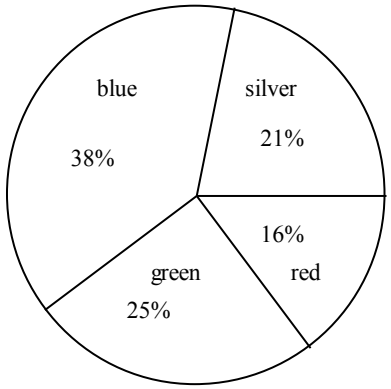


____ 7) In the graph for average monthly high temperature, which month had the second highest high temperature?
a. November b. December c. October d. January

____ 8) How much warmer was the average high temperature in October than in February?
a. 25° b. 15° c. 5° d. 30°

The following circle graph shows the colors people choose when buying sport utility vehicles at Smart Buy Motors.

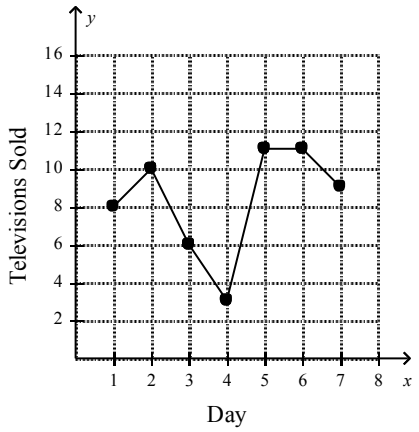
SUV Colors



____ 9) In one year, Smart Buy Motors sold 500 sport utility vehicles. Estimate the number purchased because they were blue.
a. 125 vehicles b. 105 vehicles c. 80 vehicles d. 190 vehicles

____ 10) If 600 sport utility vehicles were sold, how many more blue ones were bought than silver ones?
a. 102 vehicles b. 354 vehicles c. 78 vehicles d. 112 vehicles

Television Set Sales



____ 11) How many television sets were sold on the fourth day?
a. 10 b. 3 c. 12 d. 6

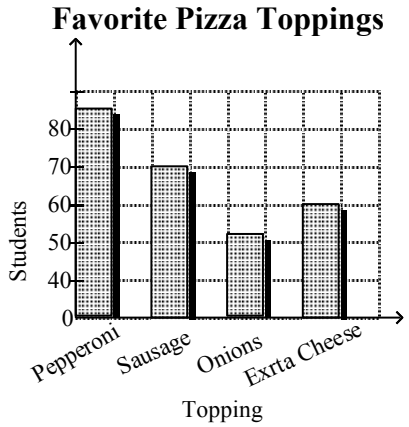
____ 12) What is the difference in the number of sets sold on the best sales day and the worst sales day?
a. 7 b. 1 c. 14 d. 8

____ 13)

Percentage of Households With a Soccer Ball	
Sweden	61%
Germany	59%
France	53%
USA	41%
Source: Phillips Electronics, www.usatoday.com/snapshot.htm (11-14-2003)	

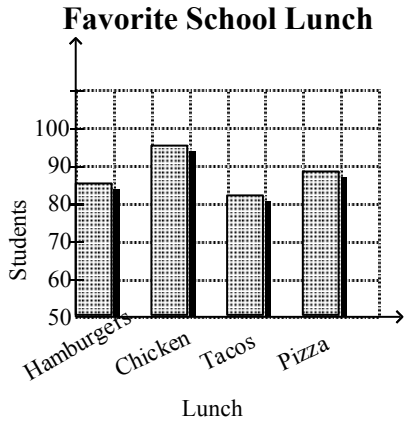
What type of graph would be the most appropriate to display the data from the soccer ball table?
a. bar graph b. circle graph c. line graph d. double bar graph

____ 14) The graph shows the results of a survey of high school students about their favorite pizza toppings. If the graph is misleading, describe why it is misleading.



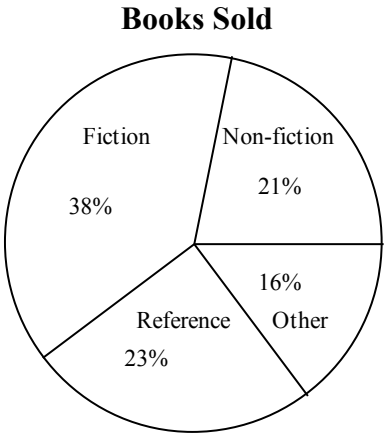
a. The vertical axis needs to begin at zero. b. The vertical and horizontal axes should be switched. c. The graph is not misleading. d. The tick marks on an axis do not have the same-sized intervals.

____ 15) The graph shows the results of a survey of high school students about their school lunch. If the graph is misleading, describe why it is misleading.



a. The bars are too far apart. b. The vertical and horizontal axes should be switched. c. The graph is not misleading. d. The vertical axis needs to begin at zero.

____ 16) The following circle graph shows the types of books people choose when shopping at a local bookstore. If the graph is misleading, tell why it is misleading.



a. The graph is not misleading. b. The percents do not have a sum of 100. c. You cannot have a category for Other. d. The sections need to be shaded.

Anthony's math scores for the quarter are 90, 91, 72, 91, 92, 92, 92, 91, 90, 90, and 91.

____ 17) Find the mean, median, and mode of Anthony's math scores. Round answers to the nearest tenth if necessary.
a. 89.3, 91, 90 b. 89.3, 93, 91 c. 89.3, 91, 91 d. 92.3, 91, 91

____ 18) Which measure of central tendency best represents Anthony's grade?
a. median and mode b. mean c. mean and median d. mean and mode

Which measure of central tendency is the best measure to describe the set of data? Explain.

____ 19)

80	80	81	83	89	92	92	95	110	113
113	118	118	119						

a. The mode, most of the data is near it. b. The mode or the median, they are equal. c. The mean or the median. They are equal. d. The mean or the median, it is multi-modal.

Find the next three terms in the sequence.

____ 20) 6, 7, 9, 12, 16, . . .
a. 22, 28, 35 b. 21, 27, 34 c. 20, 26, 33 d. 22, 29, 36

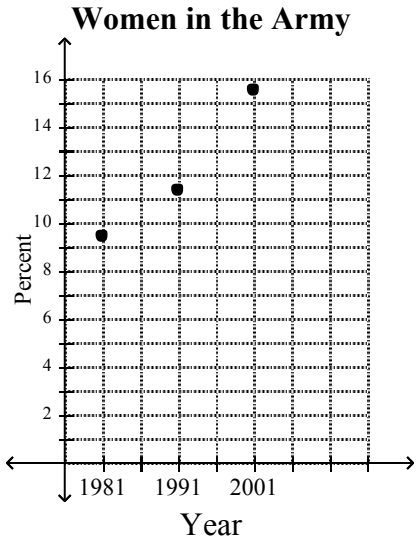
____ 21) 10, 13, 19, 28, 40, . . .
a. 52, 67, 85 b. 56, 74, 95 c. 53, 71, 92 d. 55, 73, 94

____ 22) 6, –12, 24, –48, . . .
a. 60, –72, 84 b. 96, –192, 384 c. 96, 192, 384 d. 72, –96, 120

____ 23) $x + 5$, $5x + 5$, $10x + 5$, $15x + 5$, . . .
a. $20x + 5$, $25x + 5$, $30x + 5$ b. $20x + 10$, $25x + 15$, $30x + 20$ c. $20x + 1$, $25x + 1$, $30x + 1$
d. $25x + 5$, $30x + 5$, $35x + 5$

Determine whether the graph shows a positive correlation, a negative correlation, or no correlation. If there is a positive or negative correlation, describe its meaning in the situation.

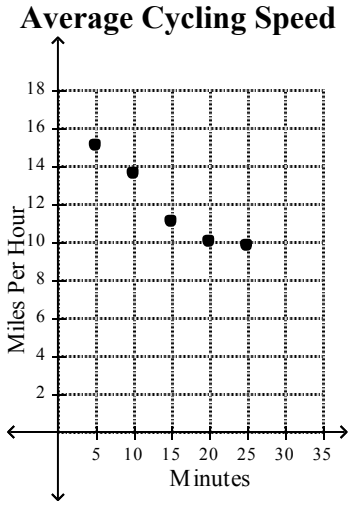
____ 24)



Source: Time Magazine, March 24, 2003

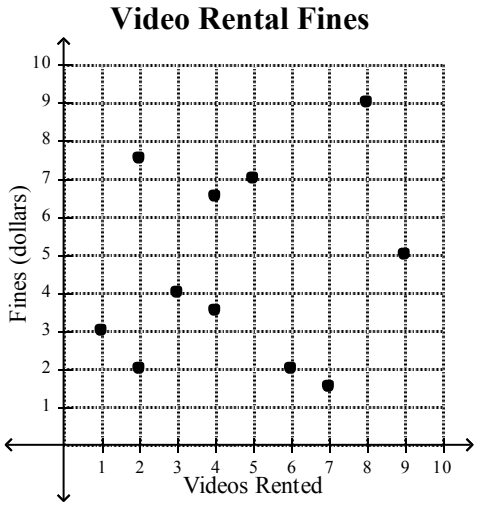
a. positive; as time goes on, more women are in the army. b. no correlation c. negative; as time goes on, fewer women are in the army. d. negative; as time goes on, more women are in the army.

____ 25)



a. no correlation b. negative; as time passes, speed decreases c. positive; as time passes, speed increases d. positive; as time passes, speed decreases

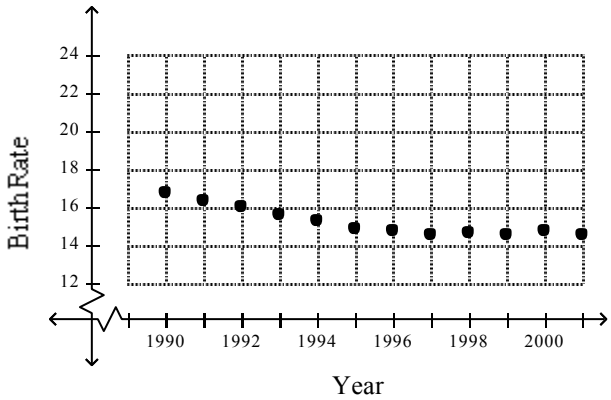
____ 26)



a. negative; as the number of videos rented increases, the amount of fine increases. b. negative; as the number of videos rented increases, the amount of fine decreases. c. no correlation
d. positive; as the number of videos rented increases, the amount of fine decreases.

____ 27)

United States Birth Rate (per 1000)



Source: National Center for Health Statistics, U.S. Dept. of Health and Human Services

a. no correlation b. positive correlation; as time passes, the birth rate increases. c. positive correlation; as time passes, the birth rate decreases. d. negative correlation; as time passes, the birth rate decreases.

Evaluate the expression.

____ 28) $2 + 2(2)^2(5) + 8$
a. 50 b. 106 c. 88 d. 90

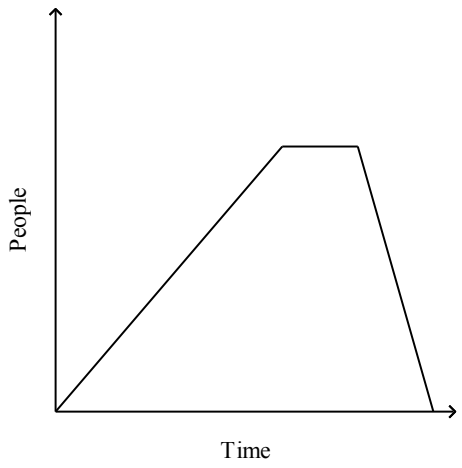
____ 29) Evaluate the following expression if $a = 12$, $b = 5$, and $c = 4$.
$3c + bc - 2a$
a. 67 b. 132 c. 8 d. 84

____ 30) Solve the equation.
$$a = \frac{6(14-8)}{2(8)+2} + 10$$
a. 20 b. 12 c. 14 d. 2

Short Answer

Describe what is happening in the graph.

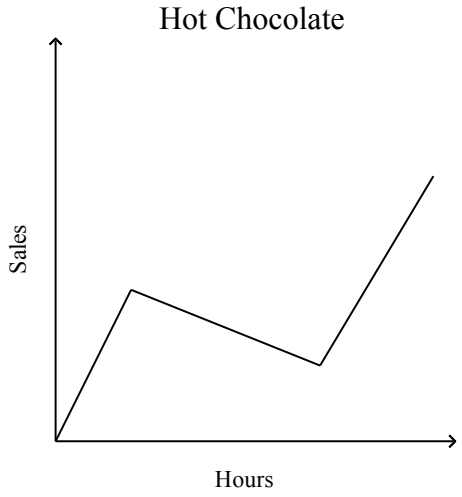
31) The graph represents the number of people in the amusement park on a summer day.

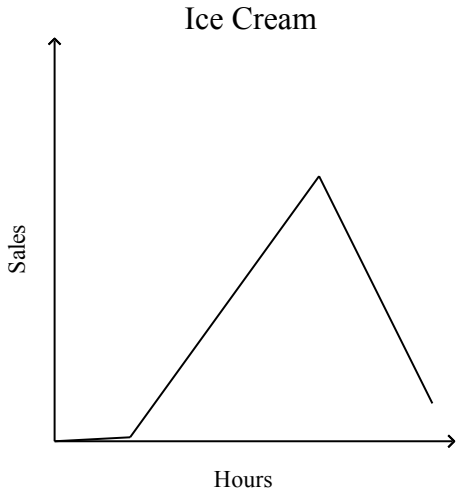


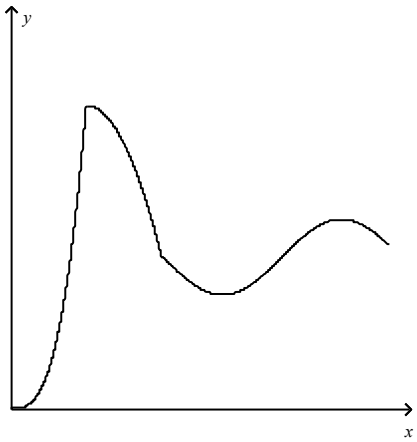
Essay

32) Record your answers on a sheet of paper. Show your work.

The concession stand at the zoo sells hot chocolate and ice cream. The graphs below show the sales of hot chocolate and ice cream at the stand for one particular day.





a. Describe the sales of hot chocolate and the sales of ice cream throughout the day as indicated in the graphs.
b. What do you think the weather was like at the zoo that day?

33) Think of a situation that could be modeled by this graph. Then label the axes of the graph and write several sentences describing the situation.