

1.) Solve each equation below:

a. $-4 - 9r = 14$

b. $-51 = -6(m - 1) - 7(-4m + 5)$

c. $-\frac{13}{3} - \frac{3}{2}x = \frac{1}{2}x + \frac{8}{3} + \frac{3}{2}x$

d. $\frac{8}{2} = \frac{3}{p}$

e. $2x^2 + 5x - 3 = 2x^2 - 7x + 8 + 12x$

f. $2^{3x} = 16^3$

2.) Simplify. Write each answer in scientific notation.

a. $(6 \times 10^{-5})(7.9 \times 10^{-5})$

b. $\frac{3.78 \times 10^{-1}}{4.5 \times 10^{-5}}$

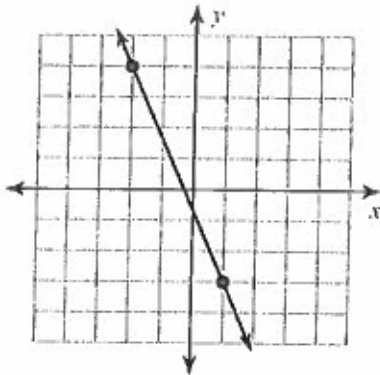
3.) Evaluate each of the following using the given values.

a. $6 + z^2 + 3 + x$; use $x = 5$, and $z = -3$

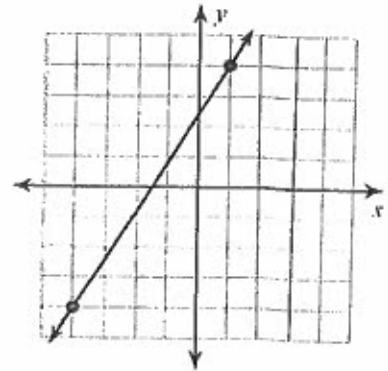
b. $\frac{x^2}{4} \times \frac{y}{4}$; use $x = 10$, and $y = -8$

4.) Find the slope.

a.



b.



c. $(-9, 7), (13, 5)$

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

e. A horizontal line

f. A vertical line

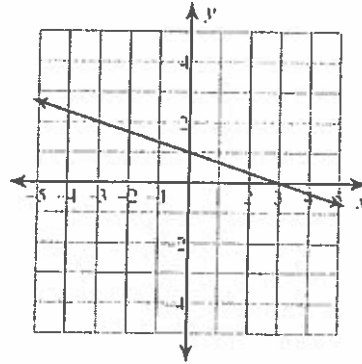
5.) Write the equation of each line.

a. Slope = $\frac{3}{4}$, y-intercept (0, -3)

b. through (5, -1), slope = $-\frac{2}{5}$

c. through (-1, -1) and (-2, 2)

d.



e. through (3, 5); parallel to $y = 3x + 1$

f. through (-4, -5); perpendicular to $y = -\frac{1}{2}x + 5$

g. A tree is planted when it is 5 feet tall and grows 2 feet per year.

6.) Simplify. Your answer should contain only positive exponents.

a. $(2xy^4)^2 \cdot (2xy^2)^4$

b. $\frac{(2xx^3)^3}{2yx^{-3}}$

c. $\frac{x^0 y^{-4}}{(y^3)^{-3} \cdot 2x^3}$

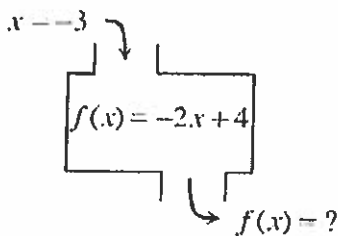
7.) Find each product.

a. $(6x - 2)(2x - 4)$

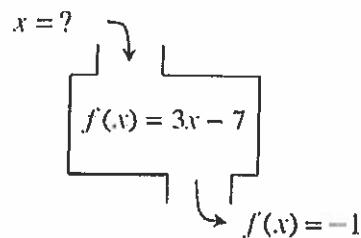
b. $(6b + 1)(-7b^2 + 4b - 7)$

8.) Find the indicated value in the function machine.

a.



b.



9.) Are the following functions?

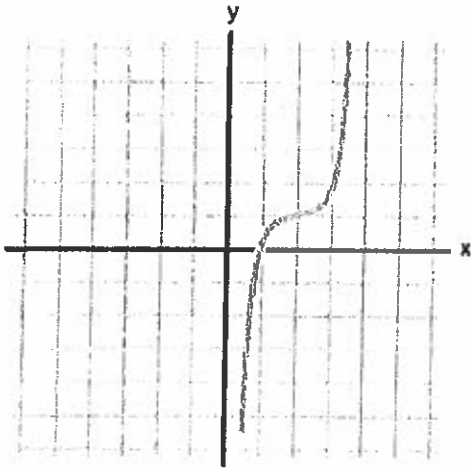
a.

X	Y
2	3
1	5
4	9
-3	5

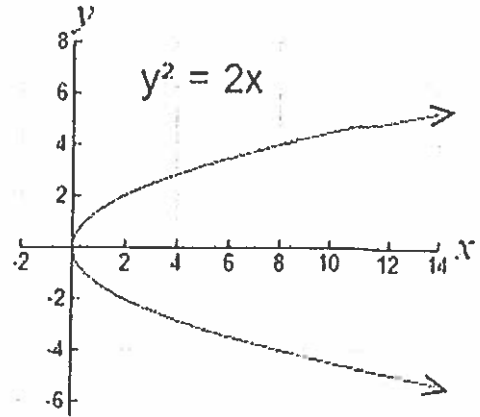
b.

X	Y
2	3
1	5
4	9
2	6

c.



d.



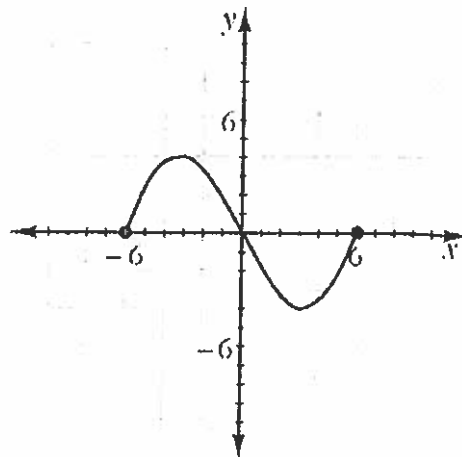
10.) Given $f(x) = 2x^2 - 3x + 4$, find $f(-1)$.

11.) Given the graph, find each of the following:

a. Domain.

b. Range

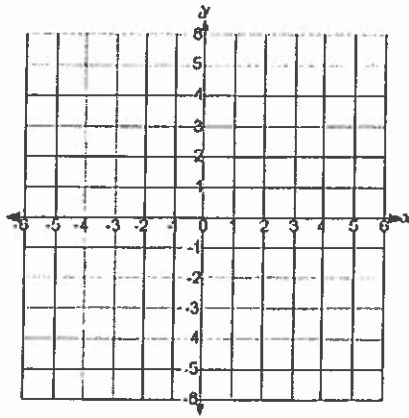
c. Estimate $f(1)$



INTEGRATED 1

FIRST SEMESTER REVIEW

12.) Graph $y = -\frac{2}{3}x - 1$



13.) Use the generic rectangle at right.

a. Express the area as a product.

b. Express the area as a sum.

$-35x$	14
$10x^2$	$-4x$

14.) Given $4x - 3y = 48$.

a. find the x -intercept.

b. find the y -intercept.

15.) Graph the points $A(3, 2)$, $B(1, 5)$, and $C(5, 4)$. Then graph the the following:

a. Reflect $\triangle ABC$ over the y -axis.

b. Rotate $\triangle ABC$ 180° about the origin.

c. Translate $\triangle ABC$ left one unit and down 7 units.

16.) Simplify the following:

a. $\frac{3}{4} + \frac{1}{8}$ b. $\frac{7}{4} - \frac{3}{6}$ c. $3\frac{2}{3}x - 4\frac{1}{5}$ d. $-23x$

Determine if the sequence is arithmetic. If it is, find the common difference, the 52nd term, the term named in the problem, the explicit formula, the recursive formula, and the three terms in the sequence after the last one given.

18) $-4, 2, 8, 14, \dots$
Find a_{22}

19) $-32, -39, -46, -53, \dots$
Find a_{31}

Determine if the sequence is geometric. If it is, find the common ratio, the term named in the problem, the explicit formula, the recursive formula, and the three terms in the sequence after the last one given.

20) $1, 2, 4, 8, \dots$
Find a_{10}

21) $-2, -1, -\frac{1}{2}, -\frac{1}{4}, \dots$
Find a_{12}

22) Write the equation of the arithmetic sequence with $t(6)=22$ and $t(21)=67$.

23) Suppose you drop a ball from 200 ft and it rebounds to a height of 160 ft. What is the rebound ratio? How high will it bounce on the fourth bounce?

Math 1 - Semester 1 Final Review

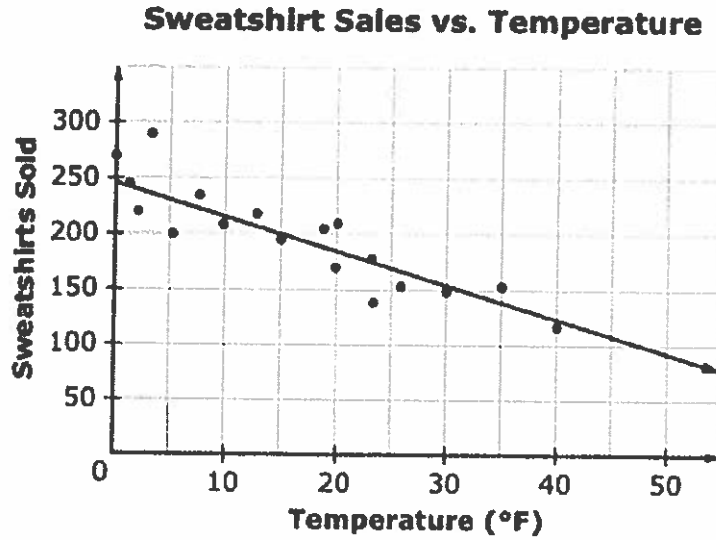
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Name: _____

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1.

This scatter plot shows the relationship between the number of sweatshirts sold and the temperature outside.



- a) Write an equation for the line of best fit
 - b) What is the expected temperature if 60 sweatshirts are sold?
-

2.

What is the solution to the equation below?

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

- a. $x = 2\frac{3}{4}$
- b. $x = -2\frac{3}{4}$
- c. There is no solution.
- d. There are infinitely many solutions.

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3.

The four tables below show relationships in which the x values represent inputs and the y values represent the corresponding outputs.

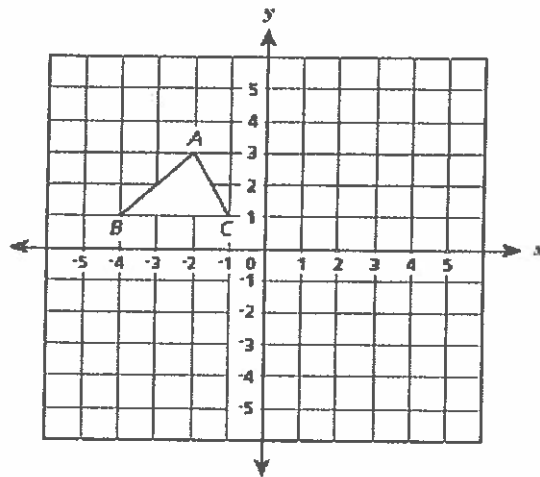
Q		R		S		T	
x	y	x	y	x	y	x	y
-2	-3	-1	-5	-2	3	3	4
1	3	2	4	1	3	4	5
3	-3	3	7	3	3	3	-4
5	3	4	10	5	3	4	-5

Which table represents a relationship that is **not** a function?

- a. Q
- b. R
- c. S
- d. T

4.

If $\triangle ABC$ is rotated 90° clockwise about the origin, what will be the new coordinates of vertex B ?



- a. $(-1, -4)$
- b. $(1, 4)$
- c. $(4, 1)$
- d. $(4, -1)$

You don't have to do this.
page

20. Answer the questions for the two sequences below.

-4, 2, 8, 14, ...

Is the sequence arithmetic or geometric? _____

What is the common difference or multiplier. _____

What is the equation? _____

What is term 16? _____

12, 36, , 108, ...

Is the sequence arithmetic or geometric? _____

What is the common difference or multiplier. _____

What is the equation? _____

What is term 16? _____