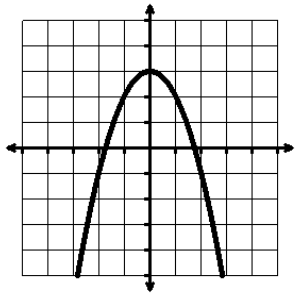
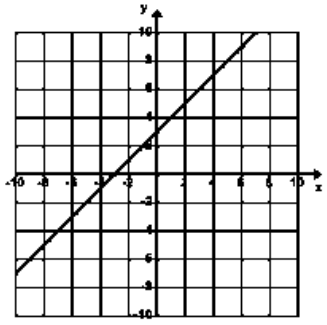
Algebra I Unit 5 Review **Name:** Key

Label each as odd or even.

1. $y = 3x^5 + 8$	odd	**2.** $y = x^2$	even
3. $y = -5x^8 + 8x + 1$	even	**4.** $y = \frac{1}{2}x^2 + 8$	even
5. 	even	**6.** 	odd

Label each as linear, quadratic, or exponential. Then write an equation for each function.

7.

x	-3	-2	-1	0	1	2	3
y	64	32	16	8	4	2	1

Linear, Quadratic, Exponential

Equation: y= $8(\frac{1}{2})^x$

8.

x	-3	-2	-1	0	1	2	3
y	-20	-13	-6	1	8	15	22

Linear, Quadratic, Exponential

Equation: y= $y = 7x + 1$

9.

x	-3	-2	-1	0	1	2	3
y	9	4	1	0	1	4	9

Linear, Quadratic, Exponential

Equation: y= x^2

Decide what type of function each of the following represents. Then write the equation.

10. Paws has 30 members, each month they gain 7 new members.

Linear, Quadratic, Exponential

Equation: y= $7x + 30$

11. A bank account has $100. Every month the account earns 5% interest.

Linear, Quadratic, Exponential

Equation: y= $100(.05)^x$

12. The school has 33 new calculators, each month 5 go missing.

Linear, Quadratic, Exponential

Equation: y= $-5x+33$

13. An apple tree produces 2 pounds of apples in its first year. After each year, the tree yields twice the initial amount.

Linear, Quadratic, Exponential

Equation: y= $2(2)^x$

14. A market researcher tracks the number of people who visit a company's store each month. The table shows the data from the last five months of the year.

Months	Number of customers
1	152
2	303
3	607
4	1211
5	2443

A. Which type of function would model this situation?

exponential

B. Describe the approximate monthly growth demonstrated in the table using words.

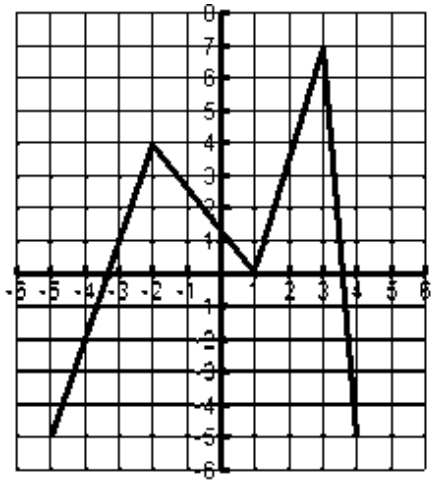
doubling

C. Assuming the growth rate was the same for an entire year, give an estimate of the number of visitors to the store in month 7. Show work or explain

10,000 customers

Find the rate of change.

15.



What is the rate of change between [-5,-2]?

$\frac{9}{3}=3$

What is the rate of change between [-2,1]?

$\frac{-4}{3}$

What is the rate of change between [1,3]?

$\frac{7}{2}=3.5$

Find the rate of change between [3,4]?

-12

What is the steepest rate of change?

16.

x	y
1	3
2	5
3	9
4	14
5	20

What is the rate of change between [1,3]?

$\frac{6}{2}=3$

What is the rate of change between [4,5]?

$\frac{6}{1}=6$

Which has a higher rate of change?

[4,5]