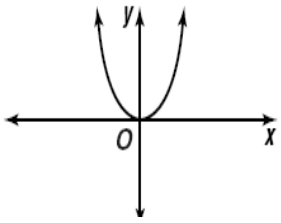
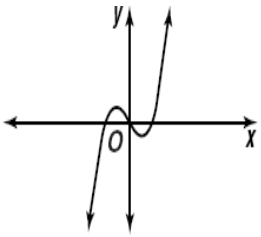
Name_____Date_____Hour_____

Linear and Nonlinear Functions Quiz

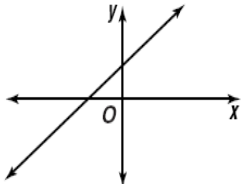
1) Choose which of the graphs is linear.



a



b



c

2) Choose which of the tables is **non**linear.

x	0	1	2	3
y	4	8	12	16

a

x	6	5	4	3
y	21	15	10	6

b

x	−1	0	1	2
y	−7	−3	1	5

c

3) Choose which of the equations is **non**linear.

A $y = -3x - 5$ B $y = 0.75$ C $y = 3x + x^2$ D $y = \frac{1}{2}x + 2$

4) Choose which of the equations is a quadratic function.

$y = x + 5$ **a**

$y = 1 - x^2$ **b**

$y = \frac{4x}{3}$ **c**

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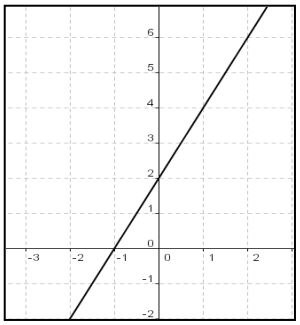
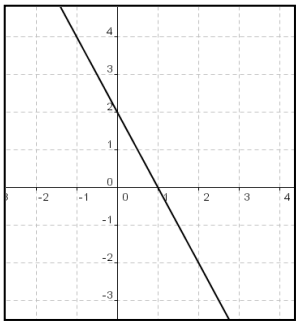
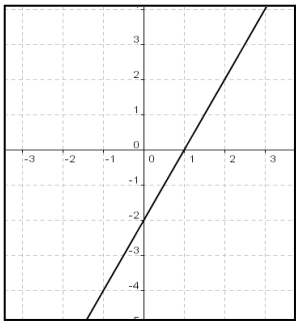
5) What is the graph of y= 2x + 2.



a

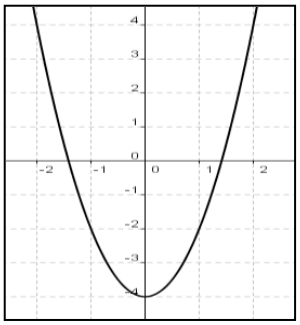


b

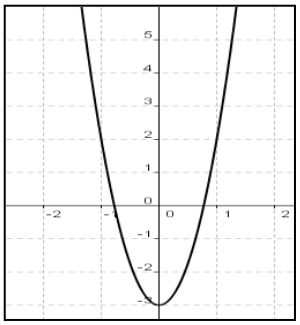


c

6) What is the graph of $y= 5x^2 - 3$.



a



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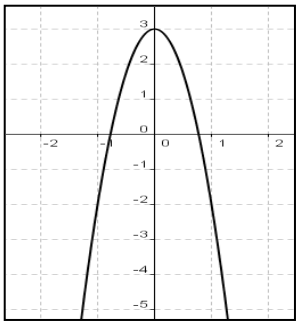
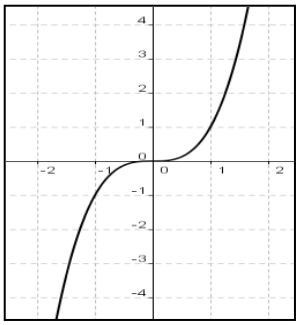
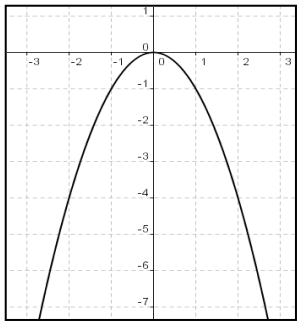


c

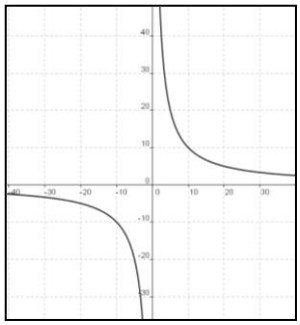
7) The following are graphs of nonlinear functions. Which of the graphs represent an inverse proportion?



a



b



c

8) Which is an equation of an inverse proportion?

a. $y = 4x$

b. $y = x^2 + x - 2$

c. $y = \frac{7}{x}$

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8) What makes a table linear?

a) varying rate of change
b) constant rate of change
c) no rate of change
d) all of the above

9) How do you find out if an equation is a linear function?

a) The variable is raised to the power of 2; the variable is found in the denominator.
b) The variable is raised either to the power of 0 or 1; the variable is found in the numerator.
c) The variable is cubic; the variable is found in the denominator.
d) None of the above.

10) True or false. Are graphs of quadratic functions always U-shape? If not, give an example when it is not U-shape?