

1. Determine if the following function rules, tables, descriptions, or graphs represent a proportional relationship, inverse variation, or neither. Briefly explain your reasoning for each case.

$y = 3x$

Independent variable: Number of games played; dependent variable: Total points.
Shaun starts with 10 points and earns 5 points for each game he plays.

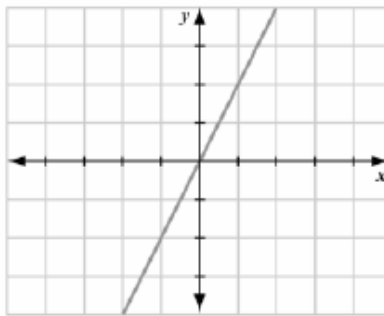
$y = \frac{x}{5}$

a. _____

b. _____

c. _____

x	y
0	0
3	6
4	8
5	10

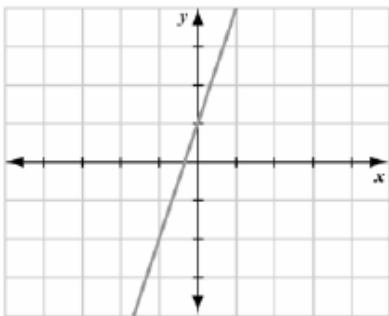


x	y
-2	0
-1	1
0	2
1	3

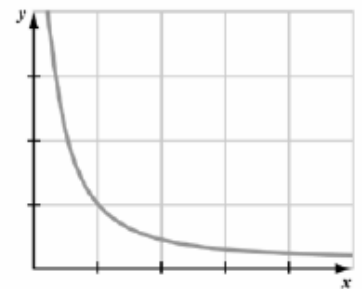
d. _____

e. _____

f. _____



Independent variable: Number of games played; dependent variable: Total points.
Shaun starts with 0 points and earns 5 points for each game he plays.



g. _____

h. _____

i. _____

2. a. Write a rule that represents direct variation. _____
 b. Write a rule that represents inverse variation. _____
 c. What is similar about the rules? What is different?

3. In your own words, describe how you would use a table to determine if data represented a quadratic relationship.

4. Determine if each table represents a quadratic function. Justify your answer.

a.

X	Y
0	3
2	7
4	19
6	39
8	67

b.

X	Y
1	2
4	14
7	47
10	98
13	167

5. Some of the data for the quadratic function $y = x^2 - 1$ is summarized in the table:

X	1	4	6	10	11
Y	0	15	35	99	120

Calculate the 2nd differences from the table. The data models a quadratic function (as we know from the rule), so why aren't the table's 2nd differences equal?

6. Fill in the table so that it represents an inverse relationship.

X					
Y					