

Communicate the Ideas

1. Giselle and Tim are discussing the table of values shown.

m	3	5	7	9
a	1	3	5	7

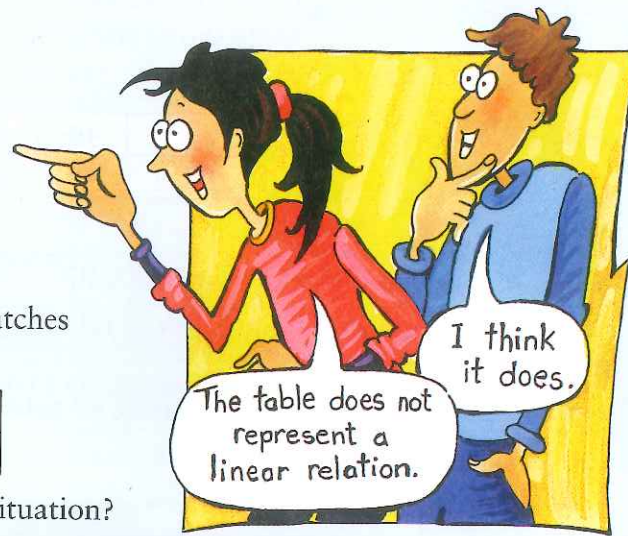
Who is correct? How do you know?

2. a) Describe a real-life situation that matches the pattern in the table of values.

n	1	2	3	4
p	1	3	5	7

- b) What do n and p represent in your situation?

3. You are given a table of values. Can you sometimes, always, or never tell whether the relationship is linear without drawing the graph? Use examples to support your answer.



Check Your Understanding

Practise

For help with #4 to #7, refer to Example 1 on page 344.

4. Graph the ordered pairs in the table of values.

a	d
1	5
2	8
3	11
4	14

5. Draw a graph using the ordered pairs in the table of values.

w	t
1	1
4	7
7	13
10	19

6. The table of values represents a linear relation.

x	0	1	2	3	4	5
a	0	4	8	12	16	20

- a) Graph the ordered pairs.
 b) What is the difference in value for consecutive x -values? What is the difference in value for consecutive a -values?
 c) In words, describe the relationship between x and a .
 d) What is an expression for a in terms of x ?

7. The table of values shows a linear relation.

n	3	4	5	6	7
d	18	24	30	36	42

- a) Graph the ordered pairs.
 b) What is the difference in value for consecutive n -values? What is the difference in value for consecutive d -values?
 c) In words, describe the relationship between n and d .
 d) What is an expression for d in terms of n ?

For help with #8 and #9, refer to Example 2 on page 345.

8. For each table of values, tell whether the relationship is linear. Explain your answer. Check by graphing the ordered pairs.

a)

c	d
2	7
3	10
4	13
5	16

b)

x	y
0	-3
1	1
3	9
5	17

9. Tell whether the relationship for each table of values is linear. Explain how you know.

a)

p	4	7	10	16
q	11	17	23	29

b)

x	2	3	4	5
y	3	2	1	0

For help with #10 and #11, refer to Example 3 on page 346.

10. Mara reads at a rate of 90 words per minute.
 a) Make a table of values that shows the total number of words Mara reads in one to six minutes. Use whole minutes.
 b) Is this a linear relation? Explain.

- c) What is an expression for the number of words Mara reads in terms of time?
 d) How many words does Mara read in 12 min?

11. The dosage of a certain medication to be given to a child is related to the child's mass. A 10-kg child receives 50 mg of the medication. For each increase in mass of 1 kg, the child receives an additional 10 mg of the medication.

- a) Make a table showing the dosage for children with an increase of 1 kg to 10 kg over the mass of 10 kg. Use whole kilograms only.
 b) Is this a linear relation? Explain how you know.
 c) What is an expression for the dosage in terms of the increase in mass over 10 kg?
 d) What is the dosage for a child with a mass of 27 kg?
 e) Can your table of values start at 0 kg? Why or why not?

Apply

12. Evan has \$6 in quarters and dimes.



- a) Name five combinations of quarters and dimes that Evan might have.
 b) Make a table of values showing the relationship between quarters and dimes. Include five pairs of values in your table.
 c) Draw a graph. Is the relationship between quarters and dimes linear in this example? Explain.
 d) What is the largest possible number of dimes? of quarters?