

Name: _____

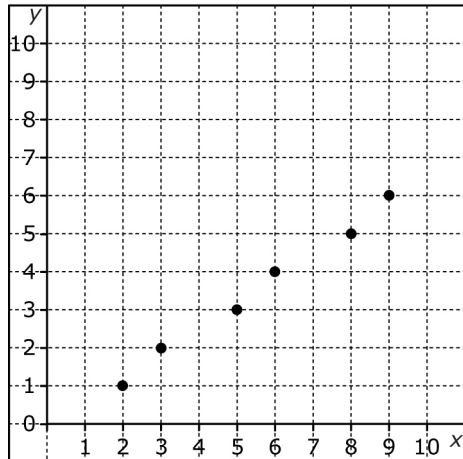
Date: _____

BLM 3-3

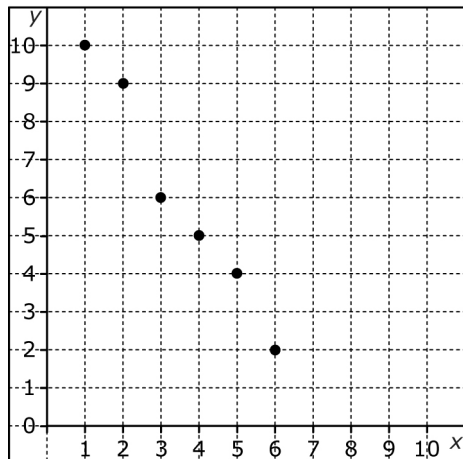
Section 3.1 Extra Practice

1. State whether each scatter plot shows a linear trend between the variables. If so, is the trend positive or negative?

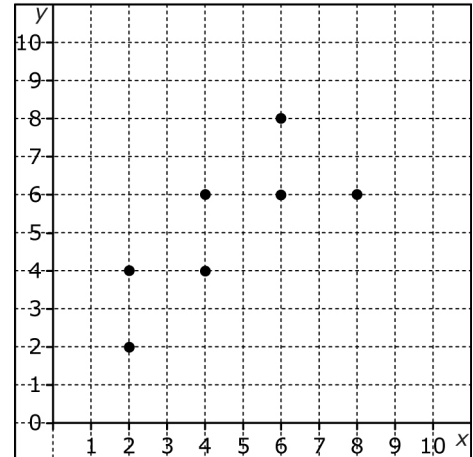
a)



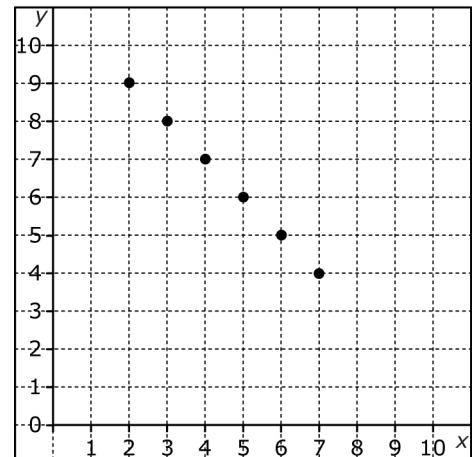
b)



c)



d)



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(continued)

2. Create a scatter plot of each set of data. Then, state whether each scatter plot shows a linear trend between the variables. If so, is the trend positive or negative?

a)

x	0	2	4	6	8	10
y	2	3	5	6	8	9

b)

x	0	1	3	4	6	8
y	8	7	6	5	4	3

c)

x	0	1	2	3	4	5
y	10	1	9	3	8	4

d)

x	10	8	6	4	2	0
y	1	3	5	7	9	10

3. Rhonda hiked the East Coast Trail on the Biscan Cove Path from Pouch Cove to Cape St. Francis. She recorded the total distance hiked each hour.

Time (h)	1	2	3	4
Distance (km)	2.1	4.0	5.6	7.3

- a)** Create a scatter plot of the data. Then, draw a line of best fit.
- b)** Describe the trend in the relationship between the variables.

- c)** Use the graph to predict

- Rhonda's distance from Pouch Cove after 30 min
- the number of hours Rhonda had hiked after 5 km

4. A body mass index (BMI) of 25 is the top end of a healthy mass range. The table compares the mass and height of people with a BMI of 25.

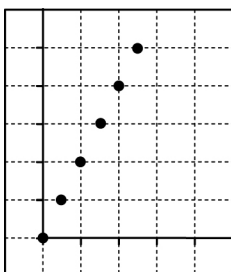
Height (cm)	150	160	170	180	190	200
Mass (kg)	56	64	72	81	90	100

- a)** Create a scatter plot of the data. What do you notice about the pattern in the points?
- b)** Describe the trend in the relationship between the height and mass of people with a BMI of 25.
- c)** Draw a line of best fit. Describe how well the line represents the trend in the relationship.
- d)** Assume the graph is a reasonable representation of the mass for the heights shown. Use the graph to predict
- the mass of someone who is 155 cm tall
 - the height of someone who has a mass of 76 kg

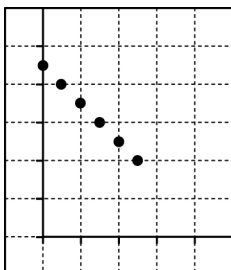


5. State whether the relationship shown in each scatter plot is a linear relationship or a non-linear relationship. Explain your reasoning.

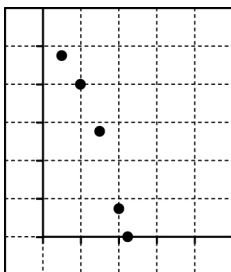
a)



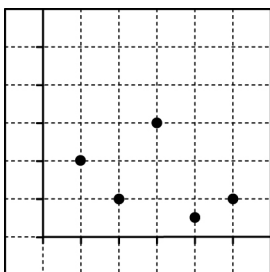
b)



c)



d)



6. Choose a graph from #5 that could match each situation. Explain your reasoning.

- a) the number of people exercising at a gym each day for 5 days
b) a boy's distance from the water as he jumps into a lake
c) the cost of downloading songs
d) the balance owing on a loan after equal monthly payments

7. Calculate the difference between successive values in each column of each table of values. State whether each table represents a linear relationship or a non-linear relationship.

a)

x	0	1	2	3
y	10	11	12	13

b)

x	0	1	2	3
y	1	3	6	10

c)

x	0	1	2	3
y	20	15	10	5

d)

x	0	2	4	8
y	10	15	12	16



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(continued)

- 8.** An archer practises shooting at a target at varying distances. Her points are displayed in the table.

Distance (m)	18	19	20	21	22	23	24	25
Score	9	10	6	7	5	2	3	0

- a)** Do the data show a linear relationship or a non-linear relationship? Explain your reasoning.
- b)** Graph the data. Does the graph support your answer to part a)?
- 9.** Some cars depreciate by 25% of the original value each year.
- a)** A new compact car sells for \$16 000. Create a table of values for the first three years after purchasing the car, assuming a depreciation rate of 25% each year.
- b)** Is the relationship between the value of the vehicle and its age linear or non-linear? How does the table support your answer?

