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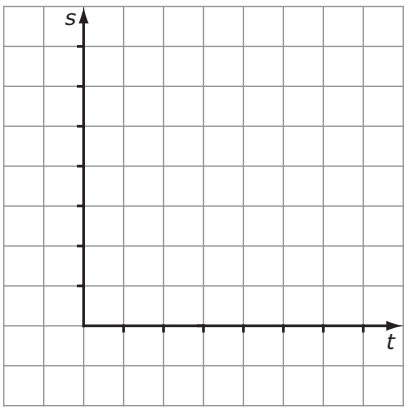
BLM 6–1

Chapter 6 Problems of the Week

1. A meteorite enters Earth's atmosphere with an initial speed of 20 km/s.
Every second it slows down by 1 km/s.
It slows down due to the change in atmosphere.

a) Graph the meteorite's speed until it stops.
At time t = 0, the speed is 20 km/s.

Time (*t*)	Speed (s)
0	
1	



b) Is this a linear relation? Circle Yes or NO. Give 1 reason for your answer.

_____

_____

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(continued)

2. Consecutive integers are a list of whole numbers (either positive or negative) that come one after the other. Example: 1, 2, 3, 4 … or –6, –5, –4, …
The formula for the sum of 4 consecutive integers can be written as $y = x + (x + 1) + (x + 2) + (x + 3)$.

a) Simplify the equation.

Combine like terms.

b) Create a table of values for every value of x from 0 to 11.

x	***y***
0	
1	
2	

c) Is this a linear relationship? Circle YES or NO.
Give 1 reason for your answer.

_____

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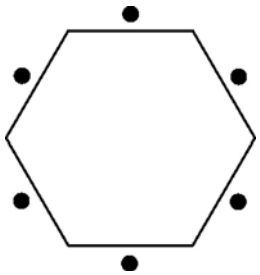
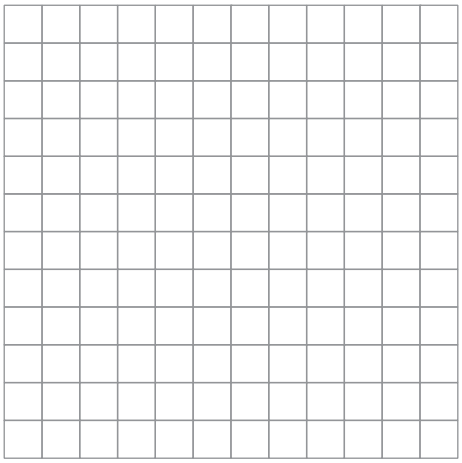
(continued)

3. A restaurant has hexagonal tables that seat 6 people.



a) Create a table of values showing the number of chairs versus the number of tables.

b) Create a graph that shows how many chairs the restaurant needs for 20 tables.



c) Write a linear equation to represent your graph. _____

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4. Suppose you know nothing about an experiment that involves voltage or current.

Voltage (*V*)	Current (mA)
0.0	0
1.5	30
3.0	60
4.5	90
6.0	120

a) Does the data represent a linear relation? Circle YES or NO.
Give 1 reason for your answer.

_____

_____

b) Describe this relationship using words or a formula.

_____

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