Chapter 6 Review

Key Words
For #1 to #5, unscramble the letters for each term. Use the clues to help you.

1. RANEIL RAINETLO _____ _____
a pattern made by a set of points that lie in a straight line (2 words)

2. PLEXATROTEA _____
to estimate values beyond given data

3. ELINAR QUEIONAT _____ _____
an equation that relates 2 variables so that the pattern forms a straight line when graphed (2 words)

4. TRIPOLENEAT _____
to estimate values between given data

6.1 Representing Patterns, pages 295–309

5.

Figure 1   Figure 2   Figure 3

a) The pattern starts with _____ toothpicks.

Then, you add _____ toothpicks each time to make the next figure.

b) Complete the table of values for the pattern.

Figure Number, n	Number of Toothpicks, t
1	
2	
3	
4	

c) Complete the table to develop an equation relating the number of toothpicks to the figure number.

Figure Number, n		Number of Toothpicks, t
1	× _____ + _____ →	
2	× _____ + _____ →	
3	× _____ + _____ →	
4	× _____ + _____ →	

Equation: _____

d) How many toothpicks are in Figure 10? Use the equation to find your answer.

6. Derek has $56 in his bank account. He plans to deposit $15 every week for a year.

a) Complete the table of values for his first 5 deposits.

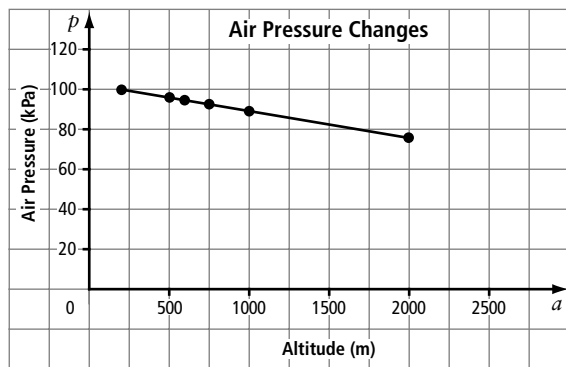| Week, w	Amount in the Bank, A ($)
0	56
1	
2	
3	
4	
5	

b) What equation models this situation?

_____

c) How much money will Derek have in his account after 35 weeks?

d) How long will it take him to save $500?

6.2 Interpreting Graphs, pages 311–320

7. The graph shows the relationship between air pressure and altitude.
Air pressure is measured in kilopascals (kPa) and altitude is measured in metres (m).

a) At an altitude of 1500 m, the air pressure is approximately _____ kPa.

b) At an altitude of 2400 m, the air pressure is approximately _____ kPa.

**c)** The air pressure is 90 kPa when the altitude is approximately _____ m.

d) The air pressure is 60 kPa when the altitude is approximately _____ m.

e) Does it make sense to interpolate or extrapolate values on this graph? Circle YES or NO. Give 1 reason for your answer.

_____

Name: _____ Date: _____

8. The table shows the student and teacher populations at 8 schools.

Number of Students (*s*)	100	250	300	450	700	150	1025	650
Number of Teachers (*t*)	9	15	17	23	33	11	46	31

a) Graph the data on the grid.

b) How many teachers might be in a school

that has 850 students? _____

c) If there are 1200 students in a school, there

might be approximately _____ teachers.

d) How many students might attend a school
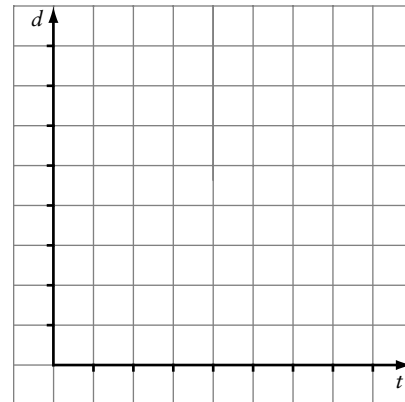
that has 30 teachers? _____
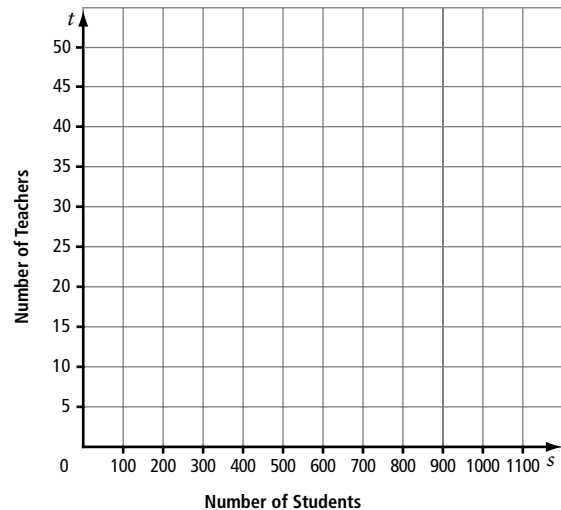
e) If there are 50 teachers in a school, there might be approximately _____ students.

6.3 Graphing Linear Relations, pages 322–339

9. a) Graph the linear relation represented by the table of values.

Time, *t* (h)	Distance, *d* (km)
0	30
1	90
2	150
3	210
4	270
5	330

b) Describe a situation that might result in this data.

_____

c) Develop a linear equation to model the data: $d =$ _____ $t +$ _____.

d) The first blank in the equation is the numerical coefficient. What does it represent?
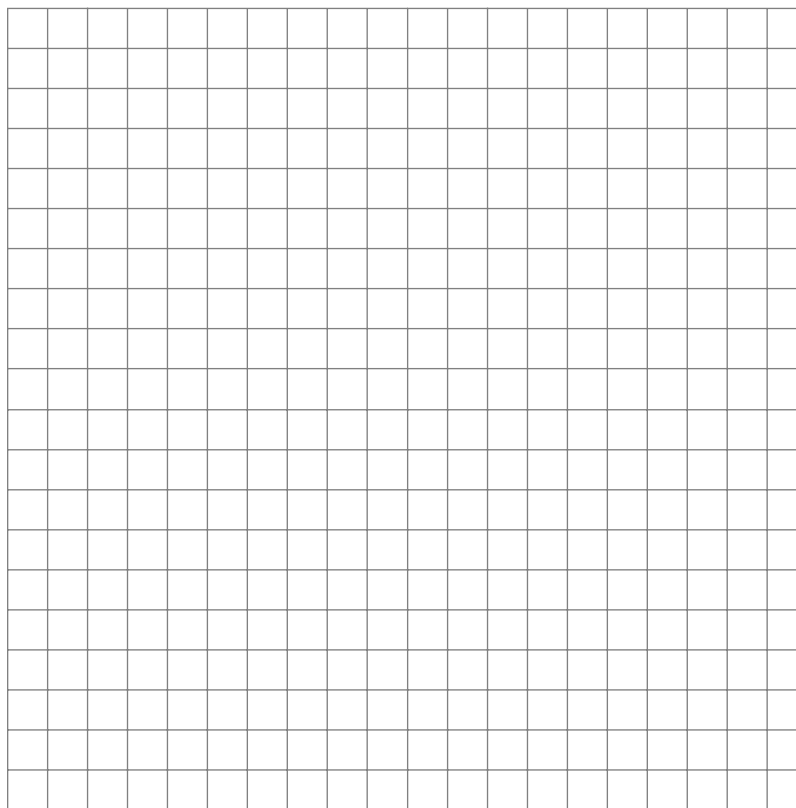
_____.

The second blank is the constant. What does it tell you?

_____

10. Use the equation $C = 40 + 20d$ to find the cost of renting a snowboard.
C = rental cost in dollars; d = number of rental days

a) Complete the table of values.
Then, graph the linear relation for the first 5 days.

Rental Days, d	Rental Cost, C
0	
1	
2	
3	
4	
5	

b) From the graph, what is the approximate cost of renting the snowboard for

1 day? _____

7 days? _____

c) A snowboard costs $300 to buy.
How many days of renting would it take before it becomes cheaper to buy it?

Use your graph to find your answer. _____

d) How could you find the answers to parts b) and c) without using the graph?

_____