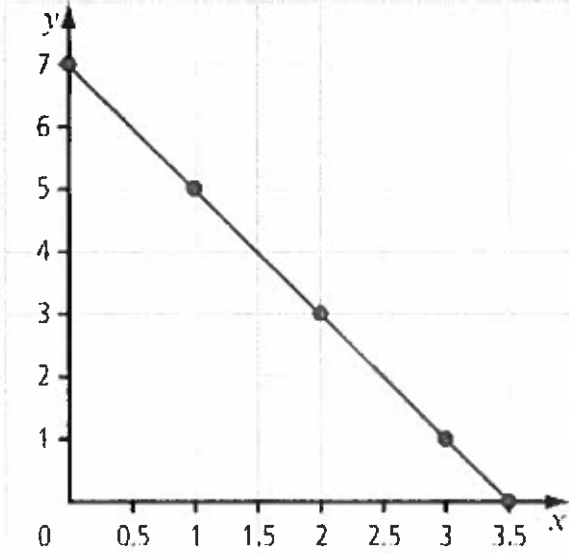**Name:** _____

Math 9 Chapter6 Test: Linear Relations

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. Which linear relation is represented by the following graph?

a. $y = -2x + 7$ c. $y = 7x - 2$
b. $y = -2x + 3.5$ d. $y = 2x - 7$

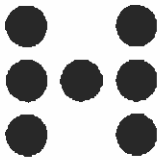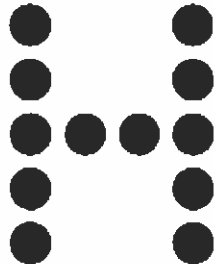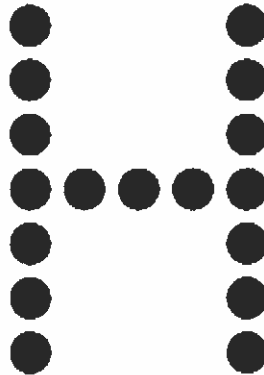*Use the figures to answer the following question(s) (2-7).*

Figure 1   Figure 2   Figure 3

_____ 2. Which statement describes the number of dots in each figure?
     a. The number of dots is five more than two times the figure number.
     b. The number of dots is four more than two times the figure number.
     c. The number of dots is six more than the figure number.
     d. The number of dots is two more than five times the figure number.

_____ 3. How many dots would the next figure contain?
      a. 19   c. 22
      b. 20   d. 27

_____ 4. Which table of values represents the number of dots in the pattern?

a.

Figure Number	Number of Dots
1	7
2	12
3	17

c.

Figure Number	Number of Dots
1	5
2	10
3	15

b.

Figure Number	Number of Dots
1	7
2	10
3	13

d.

Figure Number	Number of Dots
1	6
2	10
3	14

_____ 5. How many dots are in the sixth figure?
      a. 11   c. 32
      b. 17   d. 35

_____ 6. Following the pattern, which figure number will have 42 dots?
      a. 8   c. 37
      b. 18   d. 212

Assume that this graph shows air pressure at different altitudes. Use the graph to answer the following question(s) (8-11).

Atmospheric Pressure
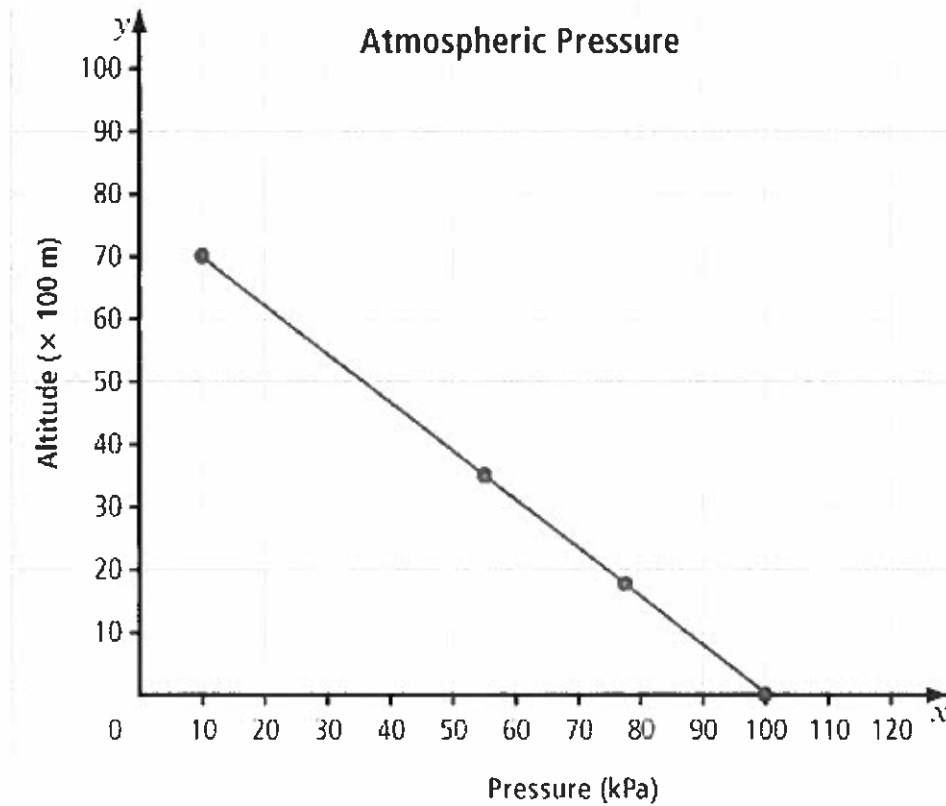
7. When a mountain climber reaches an altitude of 1000 m, what is the approximate air pressure?
   a. 78 kPa   c. 88 kPa
   b. 82 kPa   d. 92 kPa

8. If a balloonist measures the air pressure to be 80 kPa, at what approximate altitude was the measurement taken?
   a. 1300 m   c. 2000 m
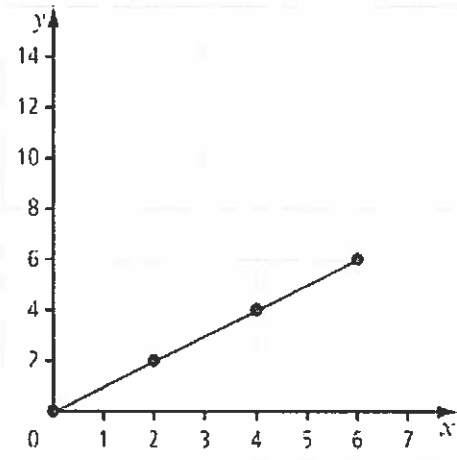   b. 1700 m   d. 2300 m

9. What is the approximate air pressure at an altitude of 4000 m?
   a. 35 kPa   c. 43 kPa
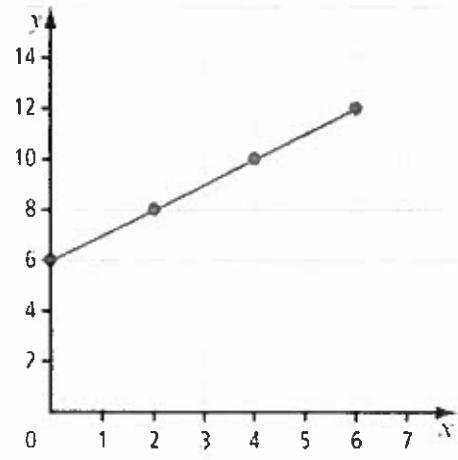   b. 40 kPa   d. 50 kPa

3
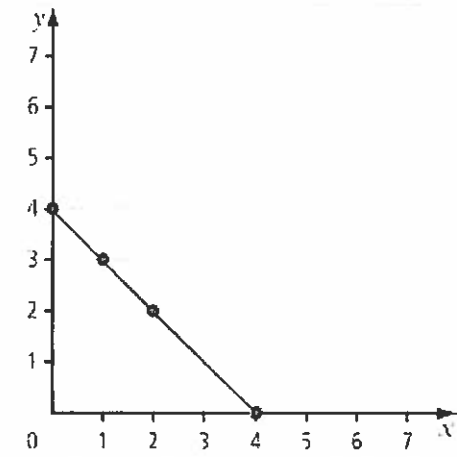
____ 10. Which graph represents the following table of values?

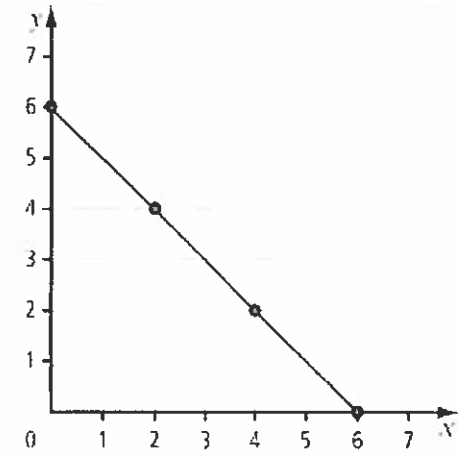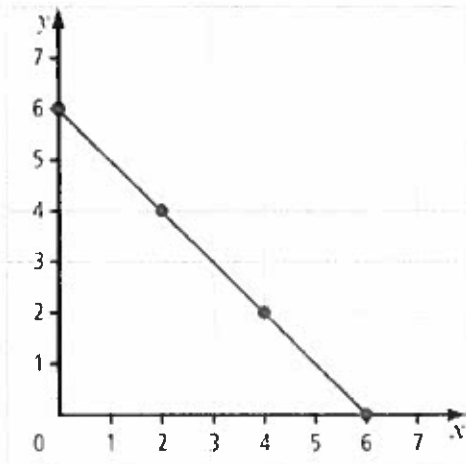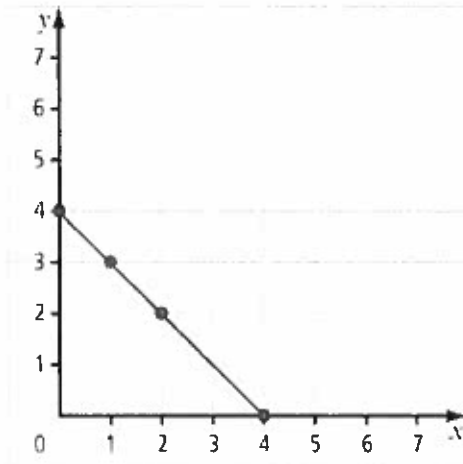| x	y
6	0
4	2
2	4
0	6

a.

c.

b.

d.

_____ 11. Which graph represents the linear relation $y = x + 6$?

a.

c.

b.
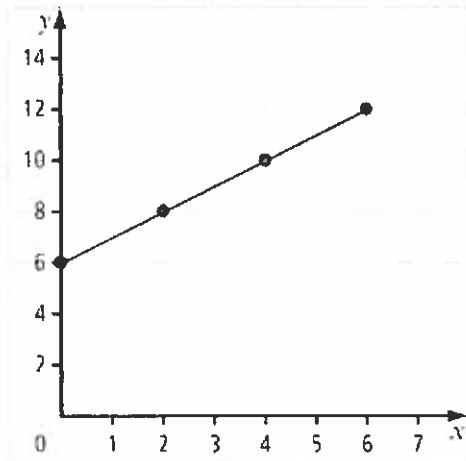
d.
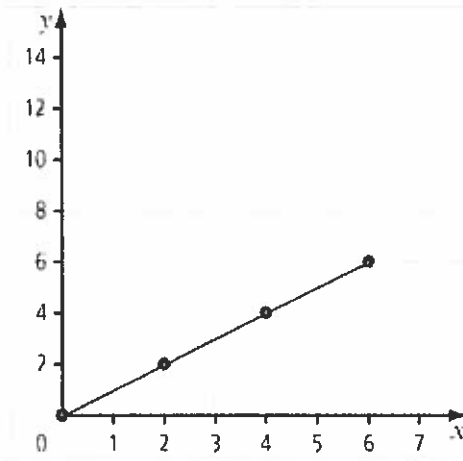
_____ 12. Which table of values represents a vertical line?

a.

x	y
0	4
1	3
2	2
4	0

c.

x	y
1	4
2	4
3	4
4	4

b.

x	y
3	2
3	4
3	6
3	12

d.

x	y
0	0
2	2
4	4
6	6

5