Pattern and Algebra

Name: Class: Section:

Section A: (MCQ Question)

1. How many squares are there between 1 to 50?
   a. 6
   b. 7
   c. 25
   d. 49
2. What will be the square of 11111?
   a. 121
   b. 12321
   c. 1234321
   d. 123454321
3. Study the pattern below and answer question; a and b.

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

   a. How many dots will be there in figure 6?
      i. 30
      ii. 34
      iii. 35
      iv. 36
   b. How many dots will be there in figure 10 in the pattern given above?
      i. 50
      ii. 100
      iii. 1000
      iv. 10000
4. What will be the next number in the pattern 25, 36, 49, 64, ___
   a. 79
   b. 80
   c. 81
   d. 100

5. Study the pattern below and answer question; a and b.

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

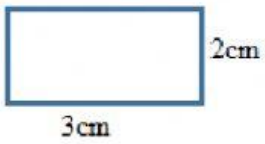
a. How many dots will be there in figure 6?
   v. 20
   vi. 21
   vii. 22
   viii. 25

b. How many dots will be there in figure 10 in the pattern given above?
   v. 50
   vi. 55
   vii. 100
   viii. 110

6. Find the next triangular number in the sequence 15, 21, 28, 36 , ___
   a. 42
   b. 43
   c. 44
   d. 45
7. Sonam is 2 times five more than Pema's age. If Pema is x years old, how old is Sonam.
   a. $2 \times 5 + x$
   b. $2x + 5$
   c. $5x + 2$
   d. $2 + 5 + x$
8. The sum of two number is 20. If one of the number is 12, which equation would you use to find the number?
   a. $12 \times x = 20$
   b. $12 + x = 20$
   c. $20 + x = 12$
   d. $x - 12 = 20$

Section B

1. Answer the questions with reference to the rectangle given below.



   a. Find the area of the rectangle given above.

      Answer: _____ cm^2

   b. Double one of the side length and find its area.

      Answer: _____ cm^2

   c. Double both the sides and find its area.

      Answer: _____ cm^2

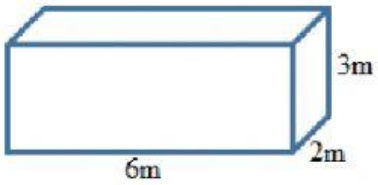
   d. What will be the area of a rectangle if you double one of its side lengths?

      Answer: The area will be _____ greater than the original rectangle.

   e. What will be the area of a rectangle if you double both the side lengths?

      Answer: The area will be _____ greater than the original rectangle.

2. Answer the questions with reference to the rectangle prism given below.



   a. Find the volume of the prism given above.

      Answer: _____ m^3

   b. Double one side lengths and find the volume?

      Answer: _____ m^3

   c. Double any two sides and find its volume?

      Answer: _____m^3

   d. Double all the sides and find its volume?

      Answer: _____ m^3

e. What will be the volume of a rectangular prism, if you double one of the dimensions?

   Answer: The volume will be _____ greater than the original rectangular prism.

f. What will be the volume of a rectangular prism, if you double any two dimensions?

   Answer: The volume will be _____ greater than the original rectangular prism.

g. What will be the volume of a rectangular prism, if you double all the dimensions?

   Answer: The volume will be _____ greater than the original rectangular prism.

3. Find the missing value.
   a. $2 \times 5 = (\quad) + 6$
   b. $15 - 4 = (\quad)$
   c. $5 + 20 = 12 + (\quad)$
   d. $14 = (\quad) - 8$
   e. $2 \times 5 + 12 = (\quad)$
4. Convert the following statements into equations.
   a. 5 added to a number is 9.
   b. 3 subtracted from a number is equal to 12.
   c. 5 times a number decreased by 2 is 4.
   d. 2 times the sum of the number x and 7 is 13.
5. The perimeter of a rectangle is 24cm. If one of the side length is 7cm, what will be the other side length of the rectangle?
6. The sum of two consecutive number is 25. What are the numbers?
7. A number is 12 more than the other. Find the numbers if their sum is 48.
8. Twice the number decreased by 22 is 48. Find the number.