

## Subject – Mathematics

### Class – VI

### Set - 3

**TIME: - 3 Hrs.**

**M.M.:- 80**

#### **Instructions:-**

- (i) Read all question carefully before attempting them.
- (ii) All questions are compulsory.
- (iii) Marks are allotted against questions.
- (iv) Write the answers against the space provided.
- (v) Write neatly and clearly.

#### **SECTION – A**

**Answer the following:**

**(1 X 5 = 5)**

**Que.1.** If  $x = 5$ , then what is the value of  $2x - 3$ ?

**Que.2.** If  $4n = 28$ , then find the value of  $n$ .

**Que.3.** Write two ones and five tenths as decimal.

**Que.4.** The length of a young gram plant is 65 mm. Express its length in cm.

**Que.5.** A line segment of length 24 cm was divided into 3 equal parts namely AB, BC and CD starting from left to right. On the rightmost end, a mirror is kept. What is the distance of an object kept at point B from its image in the mirror?

- (a) 48 cm      (b) 24 cm      (c) 16 cm      (d) 32 cm

#### **SECTION – B**

**Answer the following:**

**(2 X 10 = 20)**

**Que.6.** Show the following numbers on number line:

- (a) 0.2      (b) 2.5      (c) 1.9      (d) 1.1

**Que.7.** Find the area of a square whose perimeter is 20 cm.

**Que.8.** Renu purchases two bags of fertilizer of weights 75 kg and 69 kg. Find the maximum value of weight which can measure the weight of fertilizer exact number of times.

**Que.9.** A vendor sold 600 quintals of wheat at a gain of 7%. If one quintal of wheat cost him \$ 250 and his total overhead charges for transportation, etc., were \$ 1,000, find his total profit and the selling price of 600 quintals of wheat.

**Que.10. Find the sum:  $(-13) + (-19) + (+15) + (-10)$**

**Que.11.** Compare the ratios 4 : 5 and 2 : 3.

**Que.12.** Subtract  $4x + 3y + z$  from  $2x + 3y - z$ .

**Que.13.** Find the least number which when divided by 12, 16, 24 and 36 leaves a remainder 7 in each case.

**Que.14.** Two sides of a triangle are 22 cm and 28 cm. The perimeter of the triangle is 70 cm. What is the third side?

**Que.15.** Multiply  $3x^2 - 6y^2$  by  $2x^2 + 4y^2$

### SECTION – C

**Answer the following:**

**(3 X 5 = 15)**

**Que.16.** In which of the following expressions, prime factorization has been done?

(a)  $24 = 2 \times 3 \times 4$

(b)  $54 = 2 \times 3 \times 9$

(c)  $56 = 7 \times 2 \times 2 \times 2$

(d)  $70 = 2 \times 5 \times 7$

**Que.17.** Which of the following statements are true?

(a) If a number is divisible by 3, it must be divisible by 9.

(b) If a number is divisible by 9, it must be divisible by 3.

(c) A number is divisible by 18, if it is divisible by both 3 and 6.

(d) If a number is divisible 9 and 10 both, then it must be divisible by 90.

(e) If two numbers are co-primes, at least one of them must be prime.

- (f) All numbers which are divisible by 4 must also be divisible by 8.
- (g) All numbers which are divisible by 8 must also be divisible by 4.
- (h) If a number exactly divides two numbers separately, it must divide their sum.
- (i) If a number exactly divides the sum of two numbers, it must exactly divide the two numbers separately.

**Que.18.** Let A, B be the centres of two circles of equal radii; draw them so that each of them passes through the centre of the other. Let them intersect at C and D. Examine whether  $\overline{AB}$  and  $\overline{CD}$  are at right angles.

**Que.19.** Where will the hour hand of a clock stop if it starts

- (a) From 6 and turns through 1 right angle?
- (b) From 8 and turns through 2 right angles?
- (c) From 10 and turns through 3 right angles?
- (d) From 7 and turns through 2 straight angles?

**Que.20.** Jim bought a second hand motorcycle for \$1200 and spent \$200 on its repair. He sold it for \$1280. Find his loss percent.

### **SECTION – D**

**Answer the following:**

**(4 X 10 = 40)**

**Que.21.** Solve the followings:

- (a) Add  $\frac{2}{3}$  and  $\frac{3}{7}$
- (b) Add  $2\frac{4}{5}$  and  $3\frac{5}{6}$
- (c) Find the difference of  $\frac{17}{24}$  and  $\frac{15}{16}$
- (d) Simplify:  $4\frac{2}{3} - 3\frac{1}{4} + 2\frac{1}{6}$

**Que.22.** Out of 1800 students in a school, 750 opted basketball, 800 opted cricket and remaining opted table tennis. If a student can opt only one game, find the ratio of

- (a) Number of students who opted basketball to the number of students who opted table tennis.
- (b) Number of students who opted cricket to the number of students opting basketball.

- (c) Number of students who opted basketball to the total number of students.

**Que.23.** Draw an angle of  $70^\circ$ . Make a copy of it using only a straight edge and compasses.

**Que.24.** (a) Given Mary's age to be  $x$  years, can you guess what  $(x - 2)$  may show? (Hint: think of Mary's younger brother). Can you guess what  $(x + 4)$  may show? What  $(3x + 7)$  may show?

(b) Given Sam's age today be  $y$  years. Think of his age in the future or in the past. What will the following expression indicate?

$$y + 7, y - 3, y + 4\frac{1}{2}, y - 2\frac{1}{2}$$

(c) Given  $n$  students in the class like football, what may  $2n$  show? What may  $\frac{n}{2}$  show? (Hint: think of games other than football).

**Que.25.** In a college, out of 4320 students, 2300 are girls. Find the ratio of

- (a) Number of girls to the total number of students.
- (b) Number of boys to the number of girls.
- (c) Number of boys to the total number of students.

**Que.26.** Convert  $9/7 : 8/3$  into whole number ratio i.e., to ratio in simple form.

**Que.27.** Exercise equipments marked at \$8000 is sold for \$7200. Find the discount and discount as percentage.

**Que.28.** Emma bought a watermelon weighing 5 kg 200 g. Out of this she gave 2 kg 750 g to her neighbour. What is the weight of the watermelon left with Emma?

**Que.29.** Frame two equivalent ratios of  $4 : 5$ .

**Que.30.** Adrian bought 50 dozen pencils at \$8 a dozen. Out of these, 20 pencils were found broken. He sold the remaining pencils at \$0.80 each pencil. Find his gain or loss percent.