

**CBSE Board
Class VII
Mathematics - Term II
Sample Paper – 2**

Q1. Which of the following statement is true?

- (a) $7 - 4 = 4 - 7$
- (b) $7 - 4 > 4 - 7$
- (c) $7 - 4 < 4 - 7$
- (d) $7 - 4 = -3$

Sol. (b)

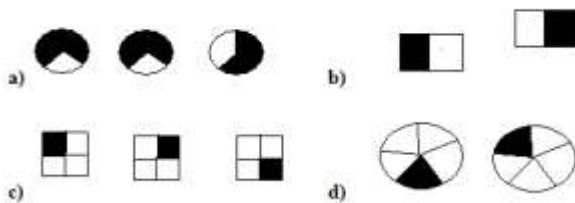
Q2. Identify the property used in the following:

$$2 \times 13 + 8 \times 13 = (2+8) \times 13$$

- (a) Commutative
- (b) Closure
- (c) Associative
- (d) Distributive

Sol. (d)

Q3. Which of the following drawing shows? $2 \times \frac{1}{5}$



Sol. (d)

Q4. What is the value of $29.35 - 04.56$?

- (a) 23.75
- (b) 16.35
- (c) 16.25
- (d) 24.79

Sol. (d)

Q5. Mode and median of the data 13, 16, 12, 14, 19, 12, 14, 13, 14 are:

- (a) 13 & 14
- (b) 14 & 13
- (c) 14 & 14
- (d) 19 & 13

Sol. (c)

Q6. There are 6 marbles in a box with number 1 to 6 marked on each of them. What is the probability of drawing a marble with number 2?

- (a) $\frac{1}{6}$
- (b) $\frac{1}{5}$
- (c) $\frac{1}{3}$
- (d) 1

Sol. (a)

Q7. In fig. the area of larger rectangle is 1750 m^2 and the area of smaller rectangle is 1350 m^2



- (a) 3100 m^2
- (b) 400 m^2
- (c) 750 m^2
- (d) 350 m^2

Sol. (b)

- Q8. In fig., the area of rectangular sheet is 50 cm^2 and the area of circle inside the sheet is 15 cm^2 cut from the sheet, then the area of remaining sheet will be



- (a) 35 cm^2
(b) 65 cm^2
(c) 35 cm
(d) 65 cm
- Sol. (a)
- Q9. Write an expression: Raju's father's age is 5 years more than 3 times Raju's age. If Raju's age is x years, then father's age is
- (a) $3x+5$
(b) $5-3x$
(c) $3x-5$
(d) $15x$
- Sol. (a)
- Q10. Which of the following is trinomial?
- (a) $2a+6b-1$
(b) 1
(c) $5a-7$
(d) $a+b+c-3$
- Sol. (c)
- Q11. The value of expression $2a^2+2b^2-ab$ for $a=2$, $b=1$ is
- (a) 2
(b) 8
(c) 6
(d) 10
- Sol. (b)

- Q12. The value of expression $2a^2+2b^2-ab$ for $a=2$, $b=1$ is
(a) -1
(b) -5
(c) 5
(d) 0

Sol. (a)

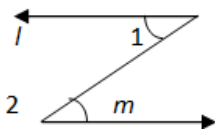
- Q13. A line that intersects two or more lines at distinct points is called
(a) Parallel
(b) transversal
(c) intersecting
(d) none of these

Sol. (b)

- Q14. Two angles forming a linear pair are _____.
(a) Equal
(b) Supplementary
(c) Unequal
(d) Complementary

Sol. (b)

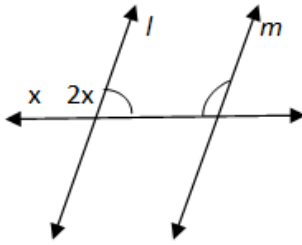
- Q15. If $l \parallel m$, then $\angle 1 = \angle 2$ because they are _____,



- (a) corresponding angles
(b) vertically opposite angles
(c) alternate interior angles
(d) supplementary angles

Sol. (c)

Q16. Find x if $l \parallel m$



- (a) 30°
- (b) 60°
- (c) 90°
- (d) 180°

Sol. (b)

Q17. Find the value of x

- (a) 50°
- (b) 70°
- (c) 120°
- (d) 180°

Sol. (c)

Q18. The approximate distance of moon from the earth is 384,467,000 m and in exponential form this distance can be written as _____ .

- (a) $3.84,467 \times 10^8 \text{m}$
- (b) $384,467 \times 10^{-8} \text{m}$
- (c) $384,467 \times 10^{-9}$
- (d) $3.844,67 \times 10^{-13} \text{m}$

Sol. (a)

Q19. Find the number from the following expanded form: $9 \times 10^5 + 2 \times 10^2 + 3 \times 10^1$

- (a) 900203
- (b) 912351
- (c) 905302
- (d) 900230

Sol. (d)

- Q20. Usual form of the expression 9×10^{-5} is given by _____ .
- (a) 0.00009
 - (b) 0.000009
 - (c) 90×10^{-4}
 - (d) 0.09×10^{-3}

Sol. (a)

- Q21. You want to show that $\triangle ART \cong \triangle PEN$, if you have to use SSS criterion, then you need to show AR =
- (a) PN
 - (b) EN
 - (c) $\angle P$
 - (d) PE

Sol. (a)

- Q22. According to Pythagoras property, in a right-angled triangle, the square on the _____ = sum of the squares on the legs.
- (a) Right angle
 - (b) Altitude
 - (c) Hypotenuse
 - (d) None of these

Sol. (c)

- Q23. The hypotenuse of a right triangle is 2 cm more than the longer side of the triangle. The shorter side of the triangle is 7 cm less than the longer side. Find the length of hypotenuse.
- (a) 15
 - (b) 17
 - (c) 41
 - (d) 25

Sol. (b)

Hypotenuse = Longer side + 2 cm Shorter side = Longer side – 7 cm

In right triangle,

(Hypotenuse)² = (Longer side)² + (Shorter side)² [from Pythagoras theorem]

$$\therefore (x + 2)^2 = (x)^2 + (x - 7)^2$$

$$\Rightarrow x^2 + 4x + 4 = x^2 + x^2 - 14x + 49$$

$$\Rightarrow x^2 + 4x + 4 = 2x^2 - 14x + 49$$

$$\Rightarrow 2x^2 - x^2 - 14x - 4x + 49 - 4 = 0$$

$$\Rightarrow x^2 - 18x + 45 = 0$$

$$\Rightarrow x^2 - 15x - 3x + 45 = 0$$

$$\Rightarrow x - 15 = 0 \text{ or } x - 3 = 0$$

$$\Rightarrow x = 15 \text{ or } x = 3$$

$\therefore x = 15$ (When $x = 3$, length or shorter side is negative which is not possible)

Length of hypotenuse of the triangle = $(x + 2)$ cm = $(15 + 2)$ cm = 17 cm

Q24. In a right angled isosceles triangle, find the ratio of their sides.

(a) $1 : 2\sqrt{2}$

(b) $2 : 3\sqrt{2}$

(c) $3\sqrt{2} : 2$

(d) $2\sqrt{2} : 1$

Sol. (a)

We have $AB = BC$

By Pythagorean Theorem

$$AC^2 = AB^2 + BC^2 \quad AC^2 = AB^2 + AB^2 \quad AC^2 = 2AB^2 \quad AC^2 = 2AB^2$$

$$AC = \sqrt{2} : AB \quad AC = AB\sqrt{2}$$

$$AB : BC : AC = AB : AB : AB\sqrt{2} = 1 : 1 : \sqrt{2}$$

Q25. The number of triangular faces of a triangular prism is _____.

- (a) 6
- (b) 7
- (c) 9
- (d) 5

Sol: (d)

5 (Bounded by 2 triangular bases and 3 adjoining faces.)

Q26. What will be the number of edges if there are 12 vertices and 20 faces?

- (a) 25
- (b) 28
- (c) 30
- (d) 40

Sol: (c)

30 (By formula : $V-E+F = 2$)

Q27. Find the number of lines of symmetry in a scalene triangle.

- (a) 2
- (b) 0
- (c) 3
- (d) 4

Sol: (b)

0 lines of symmetry

Q28. The ratio of the number of boys and girls in a college is 7 : 8. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio?

- (a) 8 : 9
- (b) 17 : 18
- (c) 21 : 22
- (d) Cannot be determined

Sol. (c)

Originally, let the number of boys and girls in the college be $7x$ and $8x$ respectively.

Their increased number is (120 % of $7x$) and (110% of $8x$).

$$\Rightarrow \left(\frac{120}{100} \times 7x\right) \text{ and } \left(\frac{110}{100} \times 8x\right)$$

$$\Rightarrow \frac{42x}{5} \text{ and } \frac{44x}{5}$$

$$\therefore \text{ The required ratio } = \left(\frac{42x}{5} : \frac{44x}{5}\right) = 21 : 22.$$

Q29. Salaries of Ravi and Sumit are in the ratio 2: 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit's salary?

- (a) Rs. 17, 000
- (b) Rs. 20, 000
- (c) Rs. 25, 500
- (d) Rs. 38, 0000

Sol. (d)

Let the original salaries of Ravi and Sumit be Rs. $2x$ and Rs. $3x$ respectively.

$$\text{Then, } \frac{2x+4000}{3x+4000} = \frac{40}{57}$$

$$\Rightarrow 57(2x + 4000) = 40(3x + 4000)$$

$$\Rightarrow 6x = 68,000$$

$$\Rightarrow 3x = 34,000$$

$$\text{Sumit's present salary} = (3x + 4000) = \text{Rs. } (34000 + 4000) = \text{Rs. } 38000.$$

Q30. If $0.75 : x :: 5 : 8$, then x is equal to:

- (a) 1.12
- (b) 1.2
- (c) 1.25
- (d) 1.30

Sol. (b)

$$(x \times 5) = (0.75 \times 8) \Rightarrow x = \left(\frac{6}{5}\right) = 1.20$$