# **CBSE Board Class VII Mathematics Term II** Sample Paper 1

Time: 2 <sup>1</sup>/<sub>2</sub> hours

Total Marks: 80

#### **General Instructions:**

- **1.** All questions are **compulsory**.
- 2. Section A comprises of 12 questions carrying 1 mark each.
- **3.** Section B comprises of **12** questions carrying 2 marks each.
- **4.** Section C comprises of **8** questions carrying 3 marks each.
- 5. Section D comprises of 5 questions carrying 4 marks each.

# **Section A**

### (Questions 1 to 12 carry 1 mark each)

- 1. If there is a discount of 40% on an article costing Rs 7000, then the price after discount is
  - A. Rs 4500
  - B. Rs 4200
  - C. Rs 4400
  - D. Rs 4600
- 2. Which of the following is the greatest rational number?
  - A.  $\frac{15}{7}$

  - B.  $\frac{15}{8}$

  - C.  $\frac{15}{10}$

  - D.  $\frac{15}{12}$
- 3. To construct an equilateral triangle, the minimum requirement is
  - A. Measure of one angle
  - B. Measure of one side
  - C. Measure of two sides
  - D. Measure of one side and one angle

figure?



- A. 15 cm
- B. 30 cm
- C. 40 cm
- D. 50 cm

**5.**  $a \times a \times a \times a \times y \times y \times y \times y \times z \times z$  can be written as

- A.  $a^4y^4z^2$
- B. ayz<sup>10</sup>
- C. ay<sup>8</sup>xz<sup>2</sup>
- D.  $ayz^8$
- 6. Which of the following figure has 7 lines of symmetry?
  - A. Regular hexagon
  - B. Regular octagon
  - C. Regular heptagon
  - D. Regular triangle
- **7.** A number is chosen at random from 1 to 5. What is the probability that the number chosen is odd?

A.  $\frac{2}{5}$ B.  $\frac{3}{5}$ C.  $\frac{1}{4}$ D.  $\frac{1}{6}$ 

8. A regular hexagon has \_\_\_\_\_ center of rotation.

- A. 1
- B. 2
- C. 3
- D. 4

**9.** Net for the following solid is



**10.** For what value of k, we have  $7x^2 - 5x + k = -4$ , given that x = -2,

- A. 22
- B. -42
- С. -22
- D. 42

**11.** In the figure given below, the measure of y is

- A. 30°
- B. 120°
- C. 130°
- D. 150°



- **12.** -5 + 9 + (-5) + (-10) + (1) is equal to
  - A. 13
  - B. -13
  - C. -10
  - D. 10

### Section B (Questions 13 to 24 carry 2 marks each)

- **13.** If  $\frac{2x-1}{3} = \frac{x+2}{2}$ , then find the value of x.
- **14.** A family reduced the consumption of sugar from 10 kg to 8 kg per month due to increase in price. Find the percentage decrease in consumption.
- 15. Write the rational form of the decimal and represent it on a number line:(i) -0.25 (ii) 0.8
- **16.** Find AB, if the area of the triangle ABC is 48 m<sup>2</sup> and the height CD is 12 m.



**17.** Simplify: 3(a + b) - 2(2a - b) + 4a - 7.

- **18.** If  $5^{2x+1} \div 25 = 125$ , find the value of x.
- **19.** Give an example of an alphabet which has 2 lines of symmetry as well as rotational symmetry of order 2.
- **20.** Count the number of unit cubes in the following solid.



21. Complete the following images whose one half and axis of symmetry is given.



- 22. Express the following numbers in exponent form.(i) 343000 (ii) 2048
- **23.** A farmer sold  $\frac{3}{5}$  of his  $56\frac{1}{2}$  tons of hay. How many tons of hay did he sell?
- **24.** In the figure below, lines m and p are parallel; t is a transversal. If  $\angle a = 57^{\circ}$ , then find  $\angle z$ .



## Section C (Questions 25 to 32 carry 3 marks each)

- **25.** Raju owns a plot which is  $1\frac{1}{3}$  acres in size. If the value of land in his area is Rs 48,000 per acre, what is the value of his plot?
- **26.** Mohan purchased an old scooter for Rs 12000 and spent Rs 2850 on its overhauling. Then, he sold it to his friend Sohan for Rs 13860. How much percent did he gain or lose?
- **27.** Draw an angle ABC of 60° such that BC = 3 cm, through B draw a line parallel to AB.
- **28.** In triangle ABC, AC = 10 cm, BC = 4 cm and AD = 6 cm. Find the length of BL.



- **29.** A wire is in the shape of a square of side 22 cm. If the wire is re-bent into a circle, find its radius. Also, find the area of circle.
- **30.** A number is increased by 20% and then decreased by 20%. Find the net increase or decrease percent?
- **31.** Construct triangle ABC where AB = 5 cm, BC = 3 cm and  $\angle ABC = 70^{\circ}$ .
- **32.** In  $\triangle$ ABC shown below, AD $\perp$ BC, BE $\perp$ AC and AD = BE. Prove that AE = BD.



### Section D (Questions 33 to 37 carry 4 marks each)

- **33.** Draw a line l, take a point A above it. Construct a line through A and parallel to l.
- 34. Simplify: (i)  $\frac{a^2 \times a^3 \times b^3 \times b^4}{a^5 \times b^2}$ (ii)  $\left(\frac{a^3}{b^4}\right)^2 \times \left(\frac{b^2}{a^3}\right)^3$
- **35.** The given figure represents a rectangular lawn with a circular fountain in the centre. The dimensions of the lawn are 18 m × 14 m and the diameter of the fountain is 7 m. Find the area of the lawn excluding the flower bed area.



- **36.** The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?
- **37.** If the sum of the sides of a right triangle is 49 inches and the hypotenuse is 41 inches, find the two sides.