ST. THOMAS SCHOOL, SAHIBABAD
WORKSHEET (2025 - 2026)
MATHEMATICS (041)
CLASS VII
SECTION A

(Choose the correct option)

1 _____ is not a measure of central tendency:
(A) Mean (B) Range (C) Median (D) Mode [1]

2 The mean of the first five natural numbers
(A) 5 (B) 3 (C) 4 (D) 5 [1]

3 Additive inverse of $\frac{8}{5}$ is:
(A) $-\frac{5}{8}$ (B) $-\frac{8}{5}$ (C) $\frac{8}{5}$ (D) $1\frac{3}{5}$ [1]

4 What is the reciprocal of $-1\frac{3}{4}$?
(A) $\frac{8}{3}$ (B) $\frac{7}{4}$ (C) $\frac{-4}{7}$ (D) $1\frac{3}{5}$ [1]

5 $\frac{-4}{3}$ is the standard form for:
(A) $\frac{-40}{-30}$ (B) $\frac{14}{13}$ (C) $\frac{-24}{32}$ (D) $\frac{28}{-21}$ [1]

6 The standard form of $\frac{45}{-80}$ is:
(A) $\frac{8}{3}$ (B) $\frac{7}{4}$ (C) $\frac{-9}{16}$ (D) $1\frac{3}{5}$ [1]

7 The sides of two squares are in the ratio 5 : 3. The ratio of their areas is:
(A) 15 : 9 (B) 25 : 9 (C) 10 : 6 (D) 5 : 3 [1]

8 The base and the altitude of a triangle are doubled, then its area becomes:
(A) doubled (B) halved (C) four times (D) same [1]

9 The radius of a semicircular table top is 7 cm. Its perimeter is:
(A) 36 cm (B) 44 cm (C) 22 cm (D) 29 cm [1]

10 The radius of a circle is 7 cm. Find the circumference of the circle.
(A) 36 cm (B) 44 cm (C) 32 cm (D) 24 cm [1]

11 The radius of a circle is 14 cm. Find the area of the circle.
A) 516cm^2 (B) 544 cm^2 (C)616 cm^2 (D)636 cm^2 [1]

12 The age of a boy is three more than twice the age of his sister. The age of boy is 17 years. The age of sister is: [1]
(A) 7 years (B) 8 years (C) 9 years (D) 10 years

13 $4.703 \times 10^5 =$ _____
(A) 470300000 (B) 4.7035 (C) 4.70300000 (D) 470300 [1]

14 $(-3)^3 \times (-3)^2$
(A) $(12)^5$ (B) $(12)^6$ (C)-243 (D) -432 [1]

15 Expression having the lowest value among the following is:
(A) $2^3 + 3^3$ (B) $2^3 \times 3^3$ (C) 5 + 5 + 5 (D) (7 – 2) (7 – 2) (7 – 2) [1]

16 $(-4)^2 \times (-1)^6$
(A) 25 (B) -25 (C)-10 (D) 16 [1]

17 $(3^3)^4 \div (3^2)^3 \times (3^\circ)^2$

(A) 3^4 (B)) 3^6 (C)) 2^6 (D) 6^2 [1]

18 $5 \times 10^5 + 3 \times 10^2 + 2 \times 10 =$ _____

(A) 532 (B) 500320 (C) 503200 (D) 503020 [1]

In Q.19 to Q.24, a statement of Assertion (A) is followed by a statement of Reason (R). Based on the statements, choose the correct option.

(A) Both A and R are true , and R is correct explanation for A.
(B) Both A and R are true , but R is not correct explanation for A.
(C) A is true but R is false.
(D) A is false but R is true.

19 **Assertion (A):** Median of the distribution is 15 means that half of the data has value less than 15. [1]
Reason (R): Mode is the most frequent observation of the data.

20 **Assertion (A):** $2^0 + 3^0 \times 5^0 = 1$
Reason (R): For any number a , $a^0 = 1$. [1]

21 **Assertion (A)** – Rational numbers are not closed under addition
Reason (R) – A rational number is a number that is in the form of p/q, where p and q are integers, and q is not equal to 0. [1]

22 **Assertion (A):** The ratio of the circumference and the diameter of a circle is always constant.
Reason (R): The circumference of a circle having radius r is given by $C = 2\pi r$. [1]

23 **Assertion:** When to construct a right-angled triangle, we must know the length of two sides
Reason: When to construct a right-angled triangle, we must know the only hypotenuse. [1]

24 **Assertion:** The value of the variable in an equation for which the equation is satisfied is called the solution of the equation
Reason: The solution of the equation $x + 3 = 0$ is 3. [1]

SECTION B

25 Which is greater $-\frac{12}{35}$ or $-\frac{15}{32}$? [2]

26 A rectangular sheet of paper is $12\frac{1}{2}$ cm long and $10\frac{2}{3}$ cm wide. Find its perimeter [2]

27 The length of a parallelogram is 25 cm and its corresponding altitude is 30 cm. The breadth of the parallelogram is 20 cm. Find the length of the altitude corresponding to the breadth of the parallelogram. [2]

28 The perimeter of a rectangle is 140 cm. If the breadth of the rectangle is 40 cm, find its length. Also find the area of the rectangle. [2]

29 Express 2187 as product of powers of their prime factors. [2]

30 Find the area of a square field whose perimeter is 320 m. [2]

31 Find the perimeter of a square field whose area is 4900 Sq. m. [2]

32 A rectangular sheet of acrylic is 34 cm by 24 cm. From it, 64 circular buttons, each of diameter 3.5 cm, have been cut out. Find the area of the remaining sheet. [2]

33 In a society, there are 26 families. Each family contributed ₹ 2900 for the renovation of the society. Find the total amount collected and express the answer in scientific notation. [2]

SECTION C

34 The following data shows the marks scored by the students of a class in a test. Find the mode and the median of the data.

23, 20, 22, 25, 20, 22, 25, 30, 20, 23 [3]

35 Find four rational numbers between $\frac{10}{15}$ and $\frac{11}{10}$. [3]

36 The length of the minute hand of a wall clock is 21 cm. How much area will it sweep in one hour? [3]

37 From a circular card sheet of radius 14 cm, two circles of radius 3.5 cm and a square of side 4 cm are removed. Find the area of the remaining sheet. [3]

38 Find the breadth of a rectangular plot of land, if its area is 440 m^2 and length is 22 m. Also find its perimeter. [3]

39 A door- frame of dimensions 2m x 1m is fixed on the wall of dimension 12m X 8m. find the total cost of white washing the wall, if the rate of white washing the wall is Rs 5.50 per m^2 [3]

40 Simplify: $\frac{2^5 \times 3^4 \times 16}{3^2 \times 64}$ [3]

41 Simplify and write in exponential form.

$(4)^7 \times (2)^4 \div (8)^5$ [3]

SECTION D

42 The performance of a student in half- yearly and final examinations is given below:

Subject	English	Hindi	Mathematics	Science	Social Studies
Half Yearly	80	78	74	85	60
Final	83	65	84	90	55

Draw a double bar graph and answer the following questions:

(a) In which subject, there is the maximum improvement of marks?

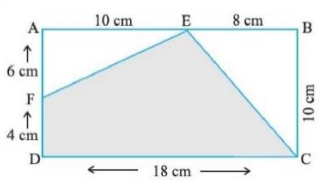
(b) In which subjects, the performance has gone down?

[5]

43 Simplify $\frac{2^4 \times 9^3 \times 2^4 \times 6}{6^3 \times 2^2}$ and write the answer in exponential form [5]

44 Divide the sum of $-2\frac{15}{17}$ and $3\frac{5}{34}$ by the product of $-3\frac{5}{17}$ and $1\frac{1}{2}$ [5]

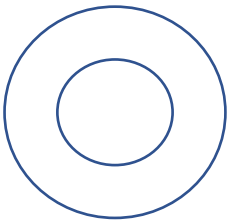
45 In the adjoining figure, AE = 10 cm, BE = 8 cm, BC = 10 cm, DC = 18 cm, FD = 4 cm and AF = 6 cm. Find the shaded area. [5]



46 Simplify using laws of exponents: $\frac{18^4 \times 15^3}{6^3 \times 10^3 \times 125}$ [5]

47 A wire is in the shape of a rectangle. Its length is 40 cm and breadth is 22 cm. If the same wire is rebent in the shape of a square, what will be the measure of each side? Also find the area of the square

48 The adjoining figure shows two circles with the same centre. The radius of the larger circle is 14 cm and the radius of the smaller circle is 7 cm. Find

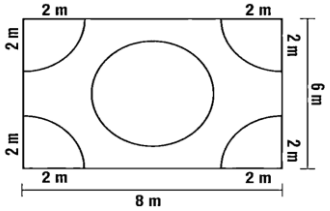


(i) The area of larger circle
(ii) The area of the smaller circle.
(iii) The area between the two circles.

[5]

SECTION E
(CASE STUDY BASED)

49 Flower beds are prepared in the centre and at the corners of a garden as shown in the figure. The diameter of the flower bed at the centre is 5 cm.
Based on the above information answer the following questions:



(i) What is the area of the circular flower bed? [1]
(ii) What is the area of the garden and area of flower beds at the corners of the garden? [1]
(iii) Find the area of the garden not used for the flower beds. [2]

50 Sharan fitted a window of length 2m and breadth 1m in a wall. The length of the wall is 15 m and the breadth is10m. Study the situation and answer the following questions:
(i) Find the area of the wall. [1]
(ii) Find the area of the window. [1]
(iii) Find the cost of polishing the window, if the rate of polishing is ₹ 16 per sq. m. [2]

51 A gardener wants to fence a circular garden of radius 7 m. For fencing he needs a rope. Study the situation and answer the following questions:

(i) Find the length of the rope he needs to buy to fence the garden [1]
(ii) Find the length of the rope, if he makes two rounds of rope [1]
(iii) Find the cost of the rope if it costs ₹3 per meter for making two rounds [2]

52 Arun and Vandana went to watch a movie with their families. Arun bought 5 tickets and Vandana bought 3 tickets at the rate of ₹ $(2p + 5)$ per ticket. Arun bought 3 packets of popcorn and Vandana bought 2 packets of popcorn at the rate of ₹ $2q$ per packet.
Based on the above information answer the following questions:
(i) Write an expression for the total cost of tickets for Arun. [1]
(ii) Write an expression for the total cost of popcorn for Arun. [1]
(iii) Find the total amount paid by Vandana if $p = 35$ and $q = 20$. [2]

53 A circular flower bed is surrounded by a path 4 metres wide. The diameter of the flower bed is 66 metres. Study the situation and answer the following questions:
(i) What is the area of circular flower bed? [1]
(ii) What is the area of flower bed with path? [1]
(iii) Find the area of path If $\pi = 3.14$ [2]

54 The ages of 11 teachers (in years) of a school are:
52, 41, 48, 44, 35, 51, 23,50, 34, 40,22
(i) What is the age of the oldest teacher and that of the youngest teacher? [1]
(ii) What is the range of the ages of the teachers? [1]
(iii) What is the mean age of these teachers? Also find the median age of teachers. [2]