

## Summative Assessment – 2

### Subject – Mathematics

### Class – VIII

Time: 3 Hours

Model Sample Paper

MM: 90

#### General Instructions:

- i) All questions are compulsory.
- ii) The question paper consists of 34 questions divided into four sections **A, B, C** and **D**.
- iii) **Section A** contains 8 questions of one mark each which are multiple choice type questions.
- iv) **Section B** contains 6 questions of two marks each.
- v) **Section C** contains 10 questions of three marks each.
- vi) **Section D** contains 10 questions of four marks each.
- vii) There is no overall choice in the paper. However, internal choice is provided in 1 question of two marks, 3 questions of three marks and 2 questions of four marks.
- viii) Use of calculator is not permitted.

#### Section A

Question numbers 1 to 8 carry one mark each.

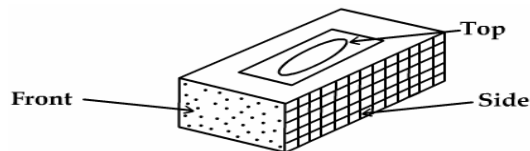
**Q 1:** Convert 2:3 into percentage.

- a) 6.66%
- b) 66.66%
- c) 0.66%
- d) 666.6%

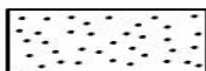
**Q 2:** Area of the rhombus with diagonals  $d_1$  and  $d_2$  is:

- a)  $\frac{1}{2} (d_1 + d_2)$
- b)  $\frac{1}{2} d_1 \times d_2$
- c)  $2 (d_1 + d_2)$
- d)  $2 d_1 \times d_2$

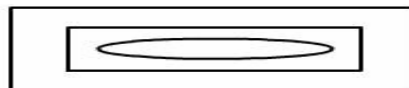
**Q 3:** Which one of the following is the side view of the brick shown in the given figure?



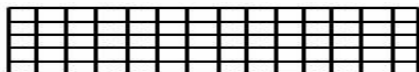
a)



b)



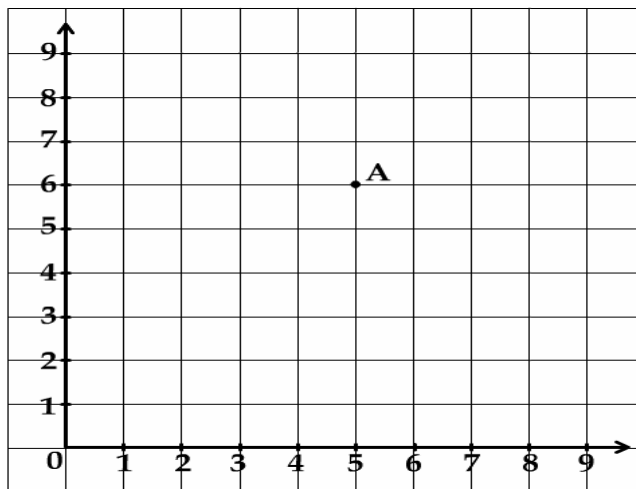
c)



d)



**Q 4:** Coordinates of point A are:



- a) (5, 6)
- b) (6, 5)
- c) (5, 5)
- d) (6, 6)

**Q 5:** The number divisible by both 2 and 3 is divisible by \_\_\_\_\_.

- a) 9
- b) 6
- c) 12
- d) 18

**Q 6:** In which of the following  $x$  and  $y$  are in direct proportion?

a) 

$x$	6	30	12
$y$	4	16	18

b) 

$x$	1	2	3	4
$y$	1	4	9	16

c) 

$x$	2	10	6
$y$	3	15	9

d) 

$x$	8	12	16
$y$	24	36	32

**Q 7:** Express 0.0000082 in standard form.

- (a)  $0.82 \times 10^{-6}$
- (b)  $82 \times 10^{-8}$
- (c)  $8.2 \times 10^{-7}$
- (d)  $8.2 \times 10^{-6}$

**Q 8:**  $4x^3yz^2$  and \_\_\_\_\_ are like terms.

(a)  $4xy^2z^2$

(b)  $-2x^3yz^2$

(c)  $x^3y^3z$

(d)  $4xy^2z$

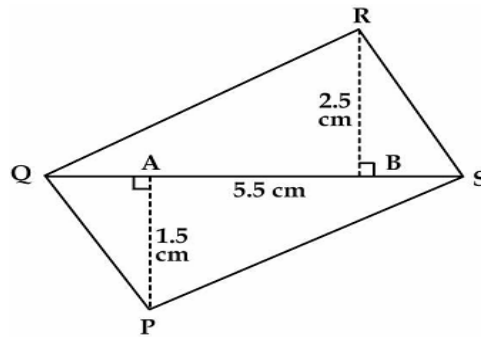
**Section B**

Question numbers 9 to 14 carry two marks each.

Q 9: Find the product:

$$\left(-\frac{10}{3} p^2 q^3\right) \times \left(\frac{6}{5} p^3 q\right)$$

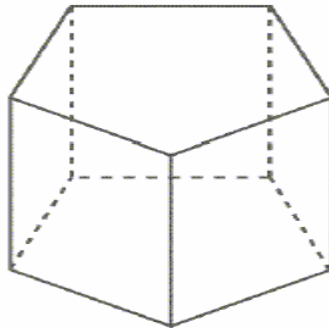
Q 10: Find the area of quadrilateral PQRS shown in the given figure.



Q 11: Factorise  $x^2yz + xy^2z + xyz^2$

Q 12: Find the value of  $(3^0 + 4^{-1}) \times 2^2$

Q 13: Verify Euler's formula for the given solid.



**Section C**

Question numbers 15 to 24 carry three marks each.

Q 15: Find the ratio of 5 m to 10 km.

OR

Q 15: If Chameli had Rs 600 left after spending 75% of her money, how much did she have in the beginning?

Q 16: A closed cylindrical tank of radius 4.2 m and height 7 m is made from a sheet of metal. How much sheet of metal is required?

**Q 17:** Draw the line passing through (1,5) and (3,3). Find the coordinates of the point at which this line meets the  $x$ -axis and the  $y$ -axis.

**Q 18:** Rashmi has a road map with a scale of 1 cm representing 18 km. She drives on a road for 72 km. What would be her distance covered in the map?

**Q 19:** In a stack there are 5 books each of thickness 20 mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the stack?

**Q 20:** Divide  $8(x^3y^2z^2 + x^2y^3z^2 + x^2y^2z^3)$  by  $4x^2y^2z^2$

**Q 21:** Divide  $9x^2y^2(3z - 24)$  by  $27xy(z - 8)$

**Q 22:** Draw the graph for the following

**Q 23:** Simplify:  $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

**Q 24:** Two persons could fit new windows in a house in three days

- One of the persons fell ill before the work started. How long would the job take now?
- How many persons would be needed to fit the windows in one day?

### Section D

**Question numbers 25 to 34 carry four marks each.**

**Q 25:** Simplify :  $(4m + 5n)^2 + (5m + 4n)^2$

**Q 26:** A milkman sold two of his buffaloes for Rs 20,000 each. On one he made a gain of 5% and on the other a loss of 10%. Find his overall gain or loss.

**Q 27:** If each edge of a cube is doubled.

- How many times will its surface area increase?
- How many times will its volume increase?

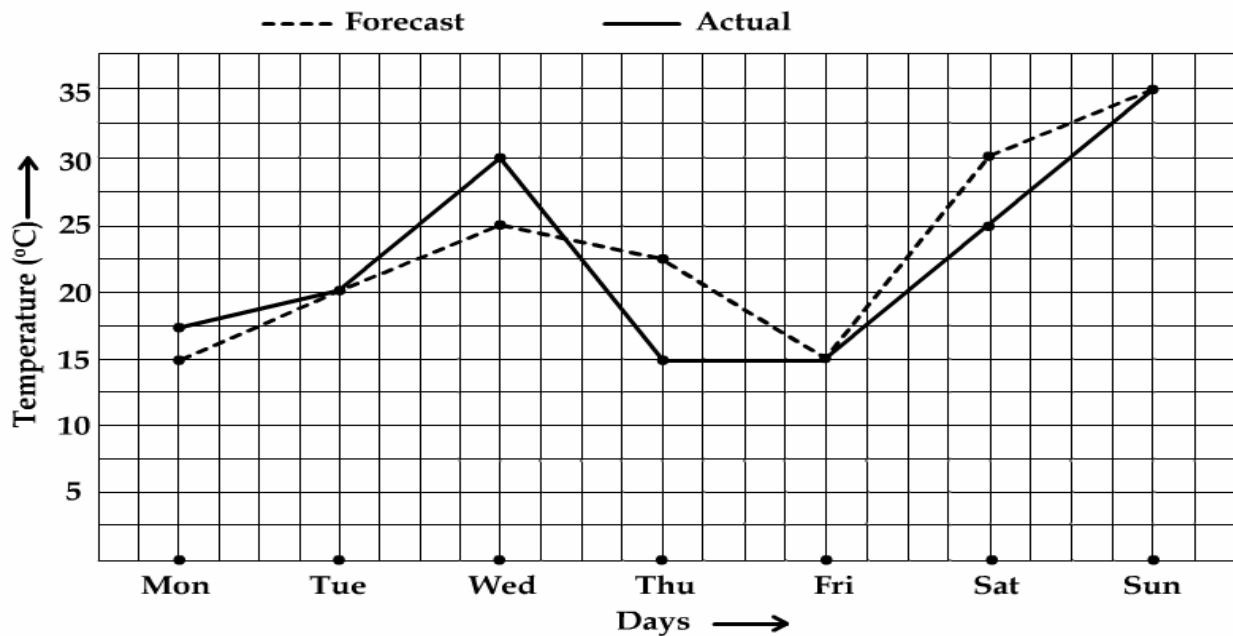
**OR**

**Q 27:** The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per  $m^2$  is Rs 4.

**Q 28:** Simplify :  $4mn(n^2 + 6n - 16) \div 2m(n + 8)$

**Q 29:** Fabina borrows Rs 12,500 at 12% per annum for 3 years at simple interest and Radha borrows the same amount for the same period at 10% per annum, compounded annually. Who pays more interest and by how much?

**Q 30:** The following graph shows the temperature forecast and the actual temperature for each day of a week



- On which days was the forecast temperature the same as the actual temperature?
- What was the maximum forecast temperature during the week?
- What was the minimum actual temperature during the week?
- On which day did the actual temperature differ the most from the forecast temperature?

**Q 31 a)** Is a square prism same as cube? Explain.

b) Is it possible to have a polyhedron with any given number of faces?

**Q 32:** In a building there are 24 cylindrical pillars. The radius of each pillar is 28 cm and height is 4 m. Mr Raj, the owner of the building decides to get the curved surface area of the pillars painted at the rate of Rs 8 per m<sup>2</sup>. Find the total cost of painting. If Mr. Raj pays Rs 1500 to the labour which of the following quality is emphasized by his act.

- kindness
- honesty
- humility
- politeness

**Q 33:**

a) Factorise:  $q^2 - 10q + 21$

b) Find and correct the errors in the following mathematical statements

(i)  $3x + 5y = 8xy$

(ii)  $8(x - 7) = 8x - 7$

**Q 34:** Find the value of  $x$  in the given equation:

$$(4^{-1} + 8^{-1}) \times (3^{-1} - 9^{-1}) \div \frac{1}{12} = 5^x$$