

MATHEMATICS ASSESSMENT

Periodic Test – II (Ganita Prakash • Ch 4 & 5)

Class: VIII

Maximum Marks: 20

Student Name:

Roll No.:

Section:

SECTION A Multiple Choice Questions (1 Mark Each)

1. The number that is divisible by 9 is: [1]
(a) 123 (b) 405 (c) 527 (d) 1277
2. If one of the angles of a parallelogram is 60° , then its adjacent angle will be of: [1]
(a) 110° (b) 150° (c) 120° (d) 180°
3. A quadrilateral with diagonals equal to each other is: [1]
(a) Trapezium (b) Rhombus (c) Rectangle (d) Parallelogram
4. If $31m$ is a three-digit number divisible by 3, then m is equal to: [1]
(a) 5 (b) 0 (c) 1 (d) 3

SECTION B Assertion-Reason Question (1 Mark)

5. **Assertion (A):** A square is also a kite. [1]
Reason (R): A square has its adjacent sides equal to each other.
(a) Both (A) and (R) are true, and (R) is correct explanation. (b) Both (A) and (R) are true, but (R) is not correct explanation.
(c) (A) is true, but (R) is false. (d) (A) is false, but (R) is true.

SECTION C Case Study-Based Questions (2 Marks)

6. A school purchased some packets of notebooks for students. Each packet contains 12 notebooks. The teacher notices that 12 is divisible by 3, so every packet can also be equally shared among 3 groups. Later, the school ordered different numbers of packets such as 24 notebooks, 36 notebooks, and 48 notebooks:
(i) Is 36 divisible by 3? Explain with the divisibility rule. [1]
(ii) If a number is divisible by 9, then all multiples of it are divisible by 9. Do you think that the given statement is true? Explain briefly. [1]

SECTION D Short & Long Answer Questions (12 Marks)

7. In the given figure $ABCD$, diagonals AC and BD intersect at O such that $OA = OB = OC = OD = 4\text{ cm}$: [2]

- (i) What do segment AC and segment BD represent in the quadrilateral? (1 mark)
- (ii) Is $AC = BD$? What is the special name of the given quadrilateral? (1 mark)

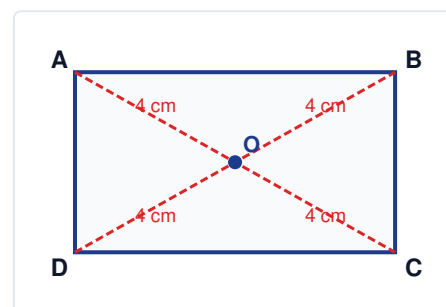


Fig. 7: Quadrilateral $ABCD$ with $OA = OB = OC = OD = 4\text{ cm}$

8. Solve the cryptarithm given below to find the unique digits A and B : [2]

$$\begin{array}{r} A \ 1 \\ + \ 1 \ B \\ \hline B \ 0 \end{array}$$

9. Draw a quadrilateral whose diagonals have equal lengths of 9 cm that bisect each other and intersect at an angle of 40° .

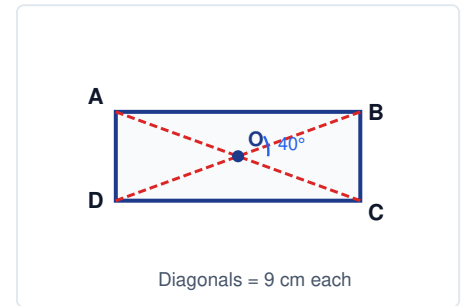


Fig. 9: Reference sketch of construction

10. In the given quadrilateral $PQRS$, where $PQ \parallel RS$ and $\angle P = 110^\circ$:

[3]

Given that $PQRS$ is an isosceles trapezium where non-parallel sides are equal ($PS = QR$), calculate the measures of the remaining three interior angles ($\angle Q$, $\angle R$, and $\angle S$). Justify each step.

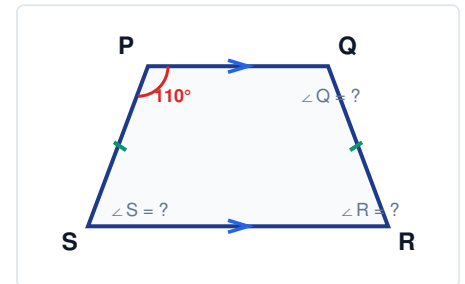


Fig. 10: Quadrilateral $PQRS$ with $PQ \parallel RS$

11. What will be the digital root of the number $9a + 36b + 13$, where a and b are integers? Explain each step.

[3]