Ei CARES

Maths

QUESTION PAPER

Maximum Marks:40

PERIODIC TEST

CLASS	SECTION	EXAM CODE
8	ROSE	4199651
8	TULIP	4199641

SCHOOL

Him Academy Public School - Hira Nagar

1. There are 28 questions in this paper. 20 of these are with options and 8 are without options. All are compulsory.
2. The questions with options carry 1 mark each. The marks for questions without options have been mentioned beside it.
3. Please check your answers carefully before submitting the test. Once submitted, the answers cannot be changed.

SECTION A

MCQs

Q: 1 **Which of these is/are rational number(s)?**

i) $-\frac{-14}{6}$	ii) 0	iii) – 100

1 only (i)
2 only (i) and (iii)
3 only (ii) and (iii)
4 all - (i), (ii) and (iii)

Q: 2 **For what value of *k* is the expression $\frac{k-5}{k+3}$ undefined?**

1 0 **2** 3 **3** -3 **4** 5

Q: 3 **For which of these operations are rational numbers NOT associative?**

1 both addition and subtraction
2 both multiplication and division
3 both addition and multiplication
4 both subtraction and division

Q: 4 **Which of the following is equal to 99 × 98?**

(Note: You need not actually solve, use properties.)

1 (9800 - 98) **2** (9800 - 1) **3** (9900 - 2) **4** (10000 - 2)

Q: 5 **♦ is an operation, such that *a* ♦ *b* = *c*, where *a* and *b* are rational numbers.**

Dana noted that as long as *a* and *b* are rational numbers, *c* is always a rational number.

Which of these properties did Dana note for ♦?

1 Closure **2** Associativity **3** Distributivity **4** Commutativity

Q: 6 **Which of the following correctly demonstrates the commutative property?**

$\frac{1}{2}[-\frac{1}{5}-(\frac{3}{5}-\frac{6}{7})]$

$=\frac{1}{2}[(-\frac{1}{5}-\frac{3}{5})+\frac{6}{7}]$.....step 1

$=\frac{1}{2}(-\frac{1}{5}-\frac{3}{5})+\frac{1}{2}\times\frac{6}{7}$ .....step 2

$=-\frac{2}{5}+\frac{3}{7}$

$=\frac{3}{7}-\frac{2}{5}$ .....step 3

$=\frac{1}{35}$

1 only step 1
2 step 2
3 step 3
4 both steps 1 and 3

Q: 7 ***m*** **and** ***n*** **are any two non zero integers. Which of the following need not be an integer?**

1 $m - n$
2 $m \times n$
3 $m \div n$
4 (All the above are integers.)

Q: 8 **2** ***t*** **- 1 = 5 -** ***t.*** **What is** ***t?***

1 $\frac{4}{3}$ **2** 2 **3** 4 **4** 6

Q: 9 **If** $\frac{t}{54} = \frac{2}{9}$ **, then** ***t*** **is**

1 6 **2** 12 **3** 18 **4** 108

Q: 10 **1 - 7** ***n*** **= 17 - 5** ***n*** **. What is** ***n*** **?**

1 -9 **2** -8 **3** 8 **4** 9

Q: 11 **5(** ***n*** **+ 2) = 40 + 3** ***n*** **.**

What is ***n*** **?**

1 -3 **2** -15 **3** 15 **4** 19

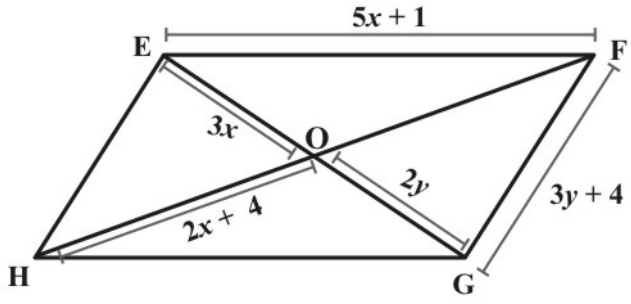
Q: 12 **Given below is a linear equation in one variable:**

$\frac{3}{2}y - 3 = \frac{1}{2}y - 2$

Which of these gives the value of ***y*** **?**

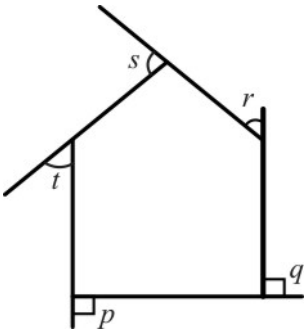
1 $(-\frac{5}{2})$ **2** (-1) **3** $\frac{1}{2}$ **4** 1

Q: 13 **Which of these must be true if the given quadrilateral EFGH is a parallelogram?**



1 $3x = 2y$
2 $2y = 2x + 4$
3 $3x = 2x + 4$
4 $5x + 1 = 3y + 4$

Q: 14 **In the following figure *p, q, r, s and t* are the measures of the angles marked.**



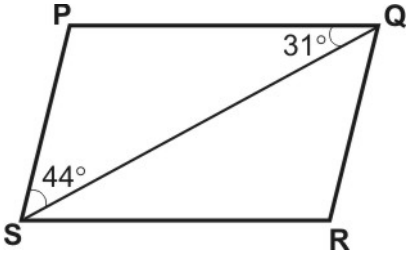
p + q + r + s + t =

1 360°
2 450°
3 540°
4 (We cannot say without knowing the individual angles.)

Q: 15 **PQRS is a quadrilateral with PQ = QR and RS = SP. From this we can say that PQRS is DEFINITELY a**

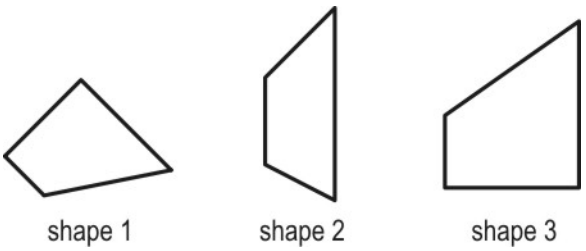
1 kite. **2** square. **3** rhombus. **4** parallelogram.

Q: 16 **What is the measure of ∠PQR in the parallelogram PQRS given below?**



1 62°
2 75°
3 88°
4 105°

Q: 17 **Which of these shapes is/are trapeziums?**



1 only shape 2
2 only shapes 1 and 2
3 only shapes 2 and 3
4 all shapes 1, 2 and 3

Q: 18 **Which of these is DEFINITELY a square?**

1 A rectangle with its diagonals equal.
2 A rectangle with its diagonals equal and bisect each other.
3 A quadrilateral with diagonals equal and perpendicular to each other.
4 A parallelogram with its sides equal and diagonals perpendicular to each other.

Q: 19 **Parallelograms are classified according to their diagonal properties in the table below.**

	Diagonals intersect at 90^0	Diagonals do not intersect at 90^0
Diagonals equal	1	2
Diagonals are not equal	3	4

A quadrilateral that fits in cell 3 of this classification table MUST be

1 a square **2** a rectangle **3** a trapezium **4** a rhombus

Q: 20 **The length of the side of a rhombus is 10 cm. One of its diagonals is 16 cm long. What is the length of its other diagonal?**

1 4 cm **2** 6 cm **3** 12 cm **4** 16 cm

SECTION B

Very Short Answer

Q: 21 **Given that, $\left(\frac{-p}{q} \times \frac{2}{3}\right) \times \frac{3}{5} = 1$, find one possible value of each p and q.** **[2]**

Show your work.

Q: 22 **Verify $(a + b) + c = a + (b + c)$ for $a = \frac{7}{4}, b = \frac{-5}{6}$ and $c = \frac{5}{3}$.** **[2]**

Show your steps.

Q: 23 **Solve the following linear equation for x.** **[2]**

$2.5x + 1.8 = 4(x - 0.9)$

Q: 24 **PQRS is a quadrilateral such that O is the point of intersection of its diagonals PR and QS. OP = OR, OS = OQ and $\angle Q = 90°$.** **[2]**

Which parallelogram will it DEFINITELY be? Justify your answer.

SECTION C

Short Answer

Q: 25 **Use appropriate properties to prove that:** **[3]**

$\{(\frac{3}{2} \times \frac{14}{5} \times \frac{2}{3}) \times (\frac{1}{7} + \frac{1}{2})\} \times \{(\frac{5}{9})\} = \frac{5}{6}\{\frac{2}{5} + \frac{12}{15}\}$. Show your work.

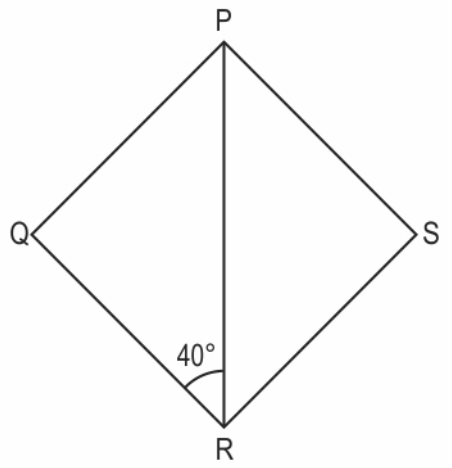
Q: 26 **Find the value of *x* and verify your result.** **[3]**

$3(2x + 2) + 5 = \frac{3x+1}{5}$

Show your steps.

Q: 27 **[3]**

Shown below is a rhombus PQRS with ∠QRP = 40°.



What is the measure of ∠RSP? Show your work.

Q: 28 **In a regular polygon, the ratio of an interior angle to its corresponding exterior angle is 4:1.** **[3]**

Determine the number of sides of the polygon. Show your work.

End of Questions in Paper

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