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DAV PUBLIC SCHOOLS, ODISHA ZONE
PERIODIC TEST-II (2023-24)

- Please check that this question paper contains 2 printed pages.
- Check that this question paper contains 20 questions.
- Write down the Serial Number of the question in the left side of the margin before attempting it.

STD VII
SUBJECT: MATHEMATICS

Time Allowed: 1hr 30mins

Maximum Marks : 40

General Instructions: -

This question paper contains five sections: Section A, B, C, D and E.

Sec – A contains 5 questions of 1 mark each.

Sec – B contains 5 questions of 1 mark each

Sec – C contains 3 questions of 2 marks each.

Sec – D contains 4 questions of 3 marks each.

Sec – E contains 3 questions of 4 marks each.

SECTION –A [1 × 5 = 5]

Choose the appropriate answer from the given options:

1. The standard form for 0.000047 is:
(a) 47×10^4 (b) 47×10^{-4} (c) 4.7×10^5 (d) 4.7×10^{-5}
2. If $6^x = 36 \times 6^y$, then the value of x-y is equal to
(a) 2 (b) 0 (c) 3 (d) 1
3. The coefficient of x in the product of (x+ 5) (x+4) is
(a) 2 (b) 9 (c) 3 (d) 4
4. If $\triangle ABC \cong \triangle PQR$, which of the following is not true:
(a) $\angle A = \angle P$ (b) $BC = QR$ (c) $\angle B = \angle R$ (d) $AC = PR$
5. Name of the angle included between the sides DE and EF of $\triangle DEF$
(a) $\angle DEF$ (b) $\angle EFD$ (c) $\angle EDF$ (d) None of these.

SECTION –B [1 × 5 = 5]

Fill in the blanks:

6. $16^{15} \div 16^{19} = 16^{\square}$
7. $\triangle XYZ \cong \triangle DEF$. If $\angle X = 45^\circ$ and $\angle Y = 60^\circ$, the measure of $\angle F$ is _____.
8. Two circles are congruent if they have same _____.

Answer the following questions:

9. Find the value of $\frac{2^{2000} - 2^{1998}}{2^{1998}}$.
10. In $\triangle ABC$, $AB = 3$ cm, $\angle B = 90^\circ$ and in $\triangle PQR$, $PQ = 3$ cm, $\angle Q = 90^\circ$, Write down the additional information required to make the two triangles congruent by RHS congruence condition.

SECTION-C [2 × 3 = 6]

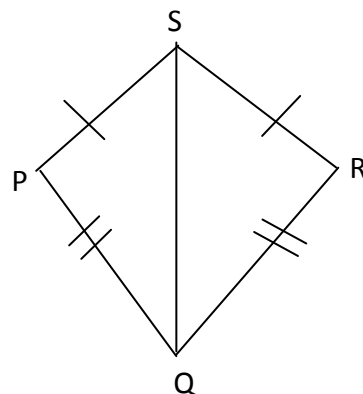
11. Simplify: $\left(\frac{1}{2}\right)^{-3} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-1}$.

12. Find the product of $(2pq - q^2)$ and $(3p^2 + 4q)$.

13. In the given figure $PS = RS$ and $PQ = RQ$.

(i) Is $\Delta PQS \cong \Delta RQS$?

(ii) State the three pairs of matching parts you have used to answer (i).

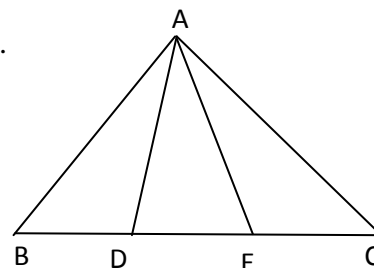


SECTION -D [3 × 4=12]

14. If $a = \left(\frac{3}{2}\right)^{-2} \div \left(\frac{7}{5}\right)^0$, find the value of a^3 .

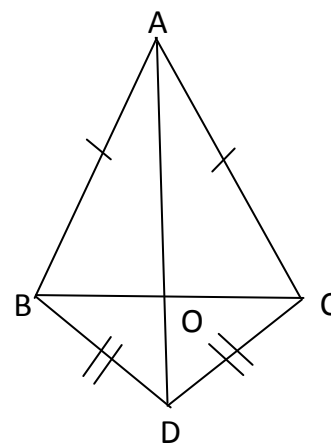
15. Find the product of $2x^2y \times \frac{3}{4}xy^2$ and evaluate it for $x = 1$ and $y = -1$.

16. In the given figure, $AB=AC$, $BD = EC$, prove that $\Delta ABE \cong \Delta ACD$.



17. In the given figure, ABC is an isosceles triangle in which $AB = AC$.

Also, D is a point such that $BD = CD$. Show that AD bisects $\angle A$ and $\angle D$.



SECTION-E [4 × 3 = 12]

18. (i) Express $(1.6 \times 10^9) \times (5.0 \times 10^{-3})$ in the form of $k \times 10^n$.

(ii) Evaluate : $[4^2 - 3^2] \div \left(\frac{1}{7}\right)^2$

19. Simplify the following and verify the results for the given values.

$(a - b)(a^2 + ab + b^2)$; $a = 2$ and $b = -3$.

20. In the given figure, ΔPQR and ΔSQR are two triangles on a common base QR such that $PQ = SR$ and $PR = SQ$.

(i) Is $\Delta PSQ \cong \Delta SPR$?

(ii) If yes, mention the condition of congruency.

(iii) State the three pairs of corresponding parts.

(iv) If $\angle SRP = 40^\circ$ and $\angle QPS = 110^\circ$ then find $\angle PSQ$.

