PONDA SCHOOL'S ASSOCIATION

JOINT FIRST TERMINAL EXAMINATION OCTOBER, 2018

STD : IX

Date : 29-10-2018

Sub : MATHS

Seat No : _____.

Marks : 80

Time : 2 1/2 hrs

Q.1. **A)** Select and write the most appropriate alternative from those provided in the bracket. (1)

The only irrational number from the given number is _____

$(0.23, \ 0.23\overline{16}, \ 0.\overline{2316}, \ 0.203200320003...)$

B) Attempt the following: (2)

1. Write the decimal form of $\dfrac{7}{8}$.

2. Write the simplified form of $27^{2/3}$.

C) Represent $\sqrt{5}$ on the number line. (3)

D. 1) Rationalise the denominator of $\dfrac{4}{2\sqrt{11}-\sqrt{10}}$. (4)

2) Express 0.3333...... in the form of $\dfrac{p}{q}$ where p and q are integers and q≠0.

Q.2 **A.** Select and write the most appropriate alternative from those provided in the bracket. (1)

The zero of the polynomial $10x-5$ is _____.

$(\dfrac{-1}{2}, \dfrac{-5}{10}, -2, \dfrac{1}{2})$

B. Factorise $2x^2 + 7x + 5$ by splitting middle term. (2)

C. Attempt the following: (3)
1. Determine whether $x = 3$ is the factor of the polynomial $x^3 - 4x^2 + x + 6$.

2. State the coefficient of x in $4x^3 - 2x^5 + 2x^2 - x + 1$.

3. Factorise $25p^2 - 16q^2$.

D. 1. Attempt the following :-

Evaluate $(103)^3$ using suitable identity. (4)

2. Find the value of k if $x-1$ is a factor of $5x^3-2x^2-5x+k$.

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Q.3.   **A. Select and write the most appropriate alternative from those provided in the bracket. (1)**

The degree of the Polynomial $x^3 + 2x^2 + x + 1$ is _____

(0, 1, 2, 3).

B. Using remainder theorem find the remainder when the polynomial

$x^3 + 2x^2 - 5x - 10$ is divided by $x + 2$.

(2)

C. Attempt the following :   (3)

1. Expand $(2x - 7)(2x + 5)$.

2. Factorise $8x^3 + y^3 + 12x^2y + 6xy^2$.

D. Find the quotient and remainder when the polynomial $2x^3 - 5x^2 + 7x + 1$ is divided by the polynomial $2x - 3$. Hence, express the result in the form

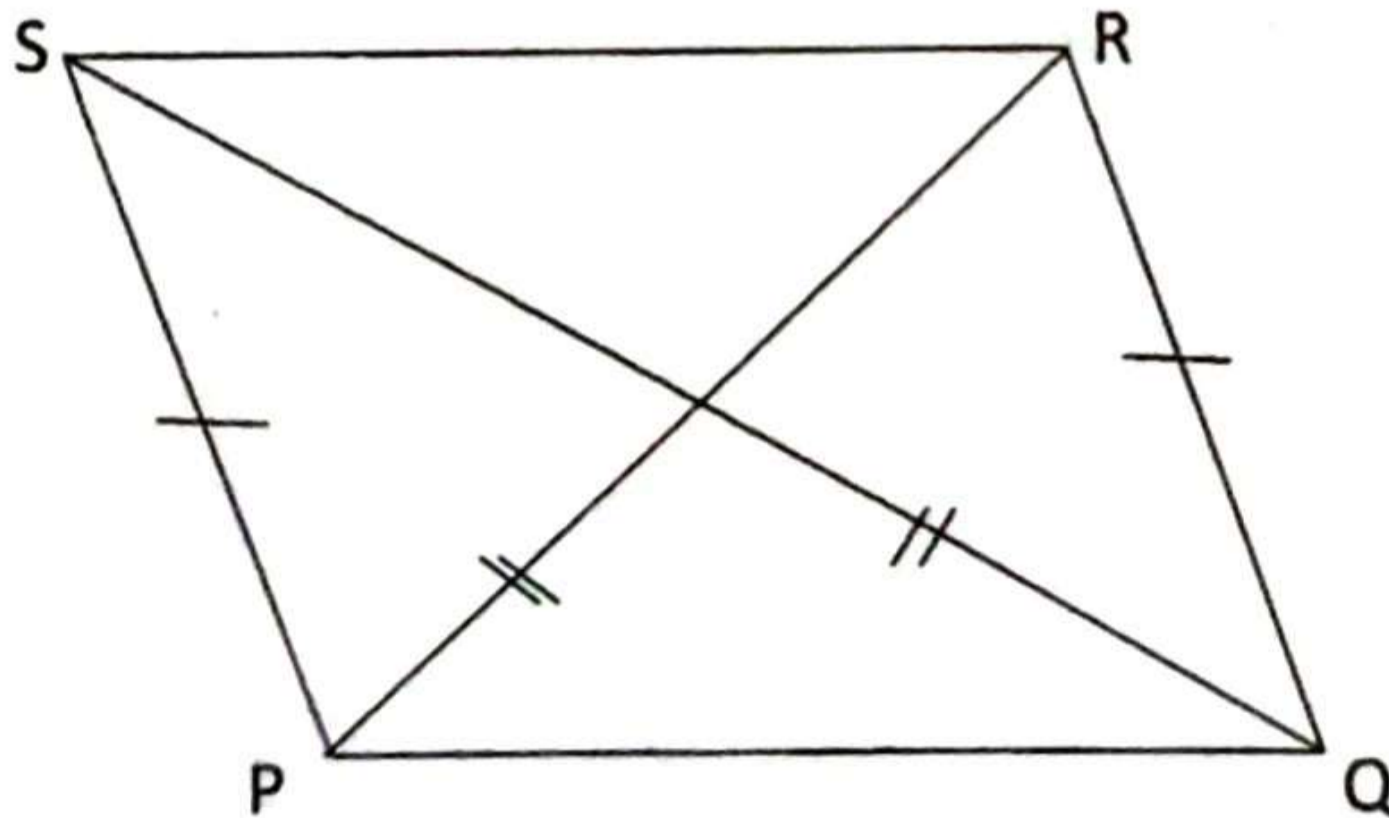Dividend = Divisor x Quotient + Remainder   (4)

Q.4.   **A. Select and write the most appropriate alternative from those provided in the bracket. (1)**

$\angle$AOC and $\angle$BOC forms a linear pair such that $\angle$AOC $= 5x$ and $\angle$BOC $= 4x$ then the value of x is _____.

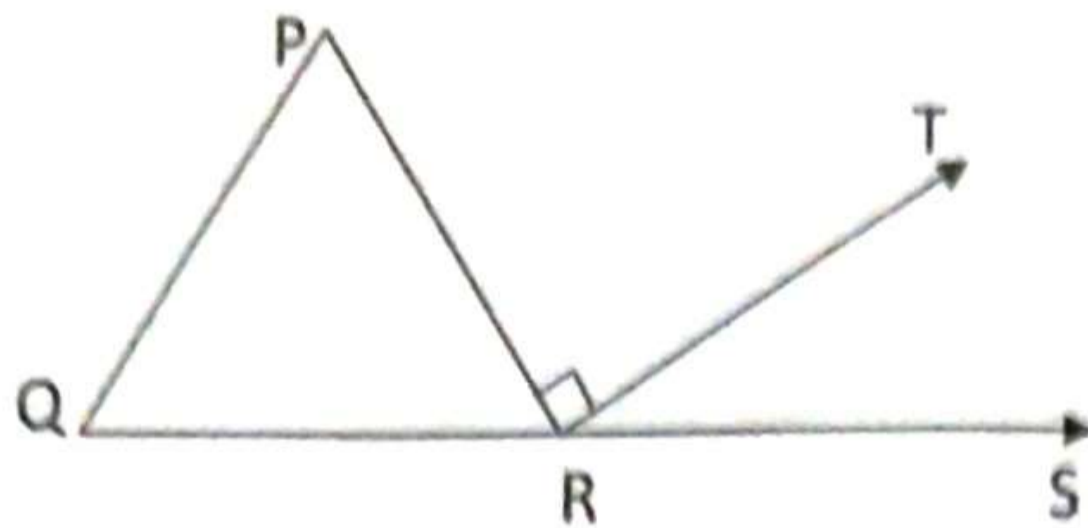(25^0, 20^0, 90^0, 180^0)

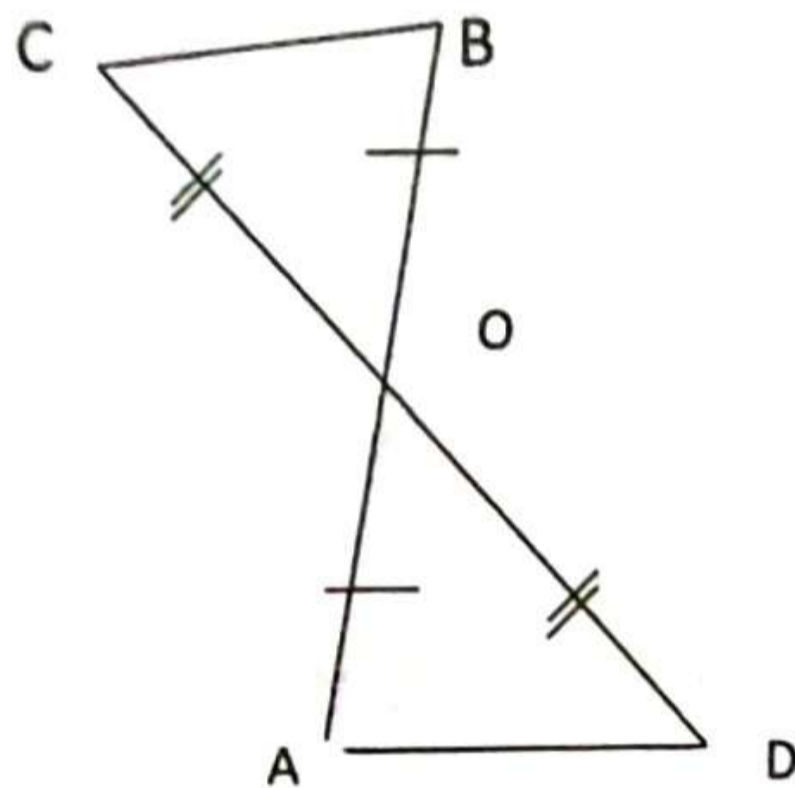**B.** In the fig. PS=QR and PR=QS. Show that $\angle$PSR = $\angle$QRS.   (2)

C. In the figure side QR of $\triangle PQR$ has been produced to S, If P:Q:R=3:2:1 and RT $\perp$ PR then find $\angle TRS$. (3)
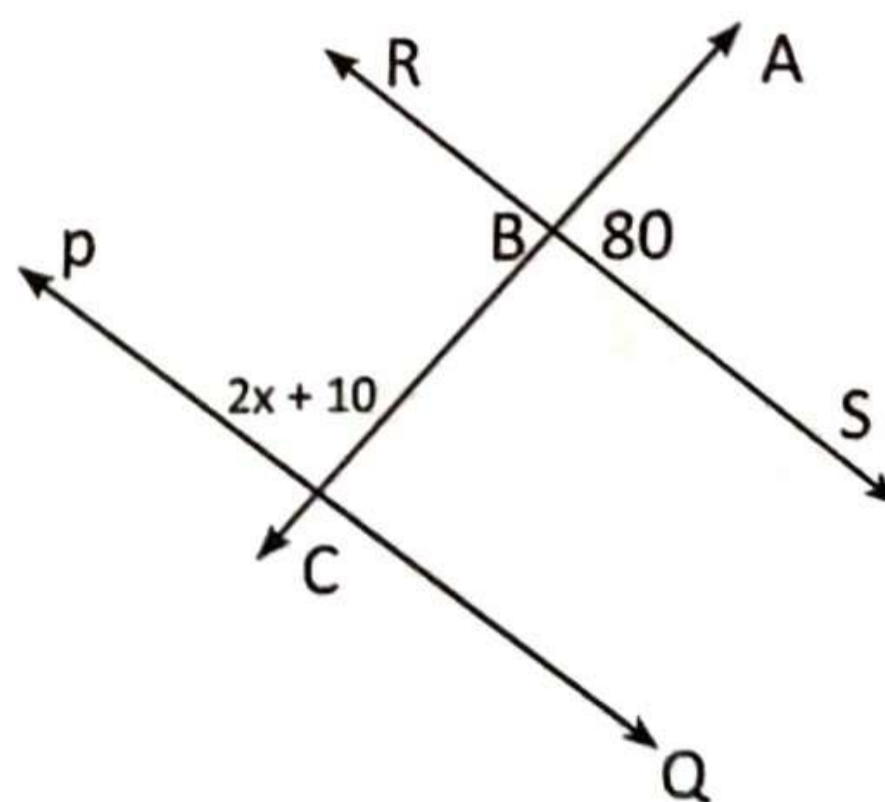

D. **Attempt the following:** (4)

1. In the figure OA=OB and OD=OC . Show that

(i) $\triangle AOD \cong \triangle BOC$ (ii) $AD \parallel BC$

2. In the adjoining figure PQ II RS and AD is the transversal. If $\angle ABS = 80^0$ and $\angle BCP = (2x + 10)^0$ then find

i) the value of x

ii) $\angle BCQ$

Q.5.   **A. Select and write the most appropriate alternative from those provided in the bracket. (1)**

The value of (101x101) –(100 x 100) is_____.
(100,201,199,200)

B. Draw ∠ABC of measure $22\frac{1}{2}^0$ using only a pair of compass and ruler.   **(2)**

C. construct ΔABC, in which BC=7cm,∠B=75⁰ and AB+AC =10.5.   **(3)**

D. Construct ΔXYZ with perimeter 10.5cm , ∠Y =60⁰ and ∠Z=45⁰.   **(4)**

Q.6.   **A. Select and write the most appropriate alternative from those provided in the bracket. (1)**

In ΔABC and ΔPQR, ∠B=∠Q= 90⁰ , AC=PR and BC= QR then ΔABC ≅ ΔPQR by

_____ congruence rule. (ASA,SSS,RHS,SAS)

B. Attempt the following :   **(2)**

1. In quadrilateral ABCD, If AC =AD and AB bisects ∠A , $\Delta ABC \cong \Delta ABD$ then

_____.

$$(BC > BD, \ BC = BD, \ BC < BD, \ BC = \frac{1}{2}BD)$$

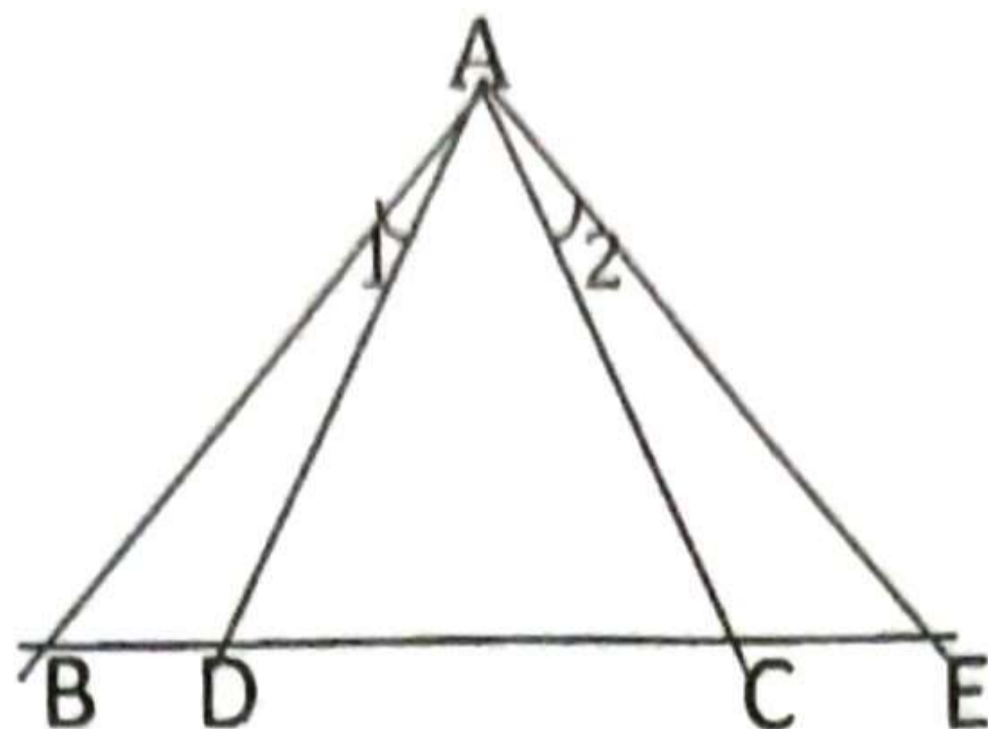2. In ΔEFG , side FG is produced to H and if ∠F =50⁰ and ∠E =70⁰ then find the measure of ∠EGH.

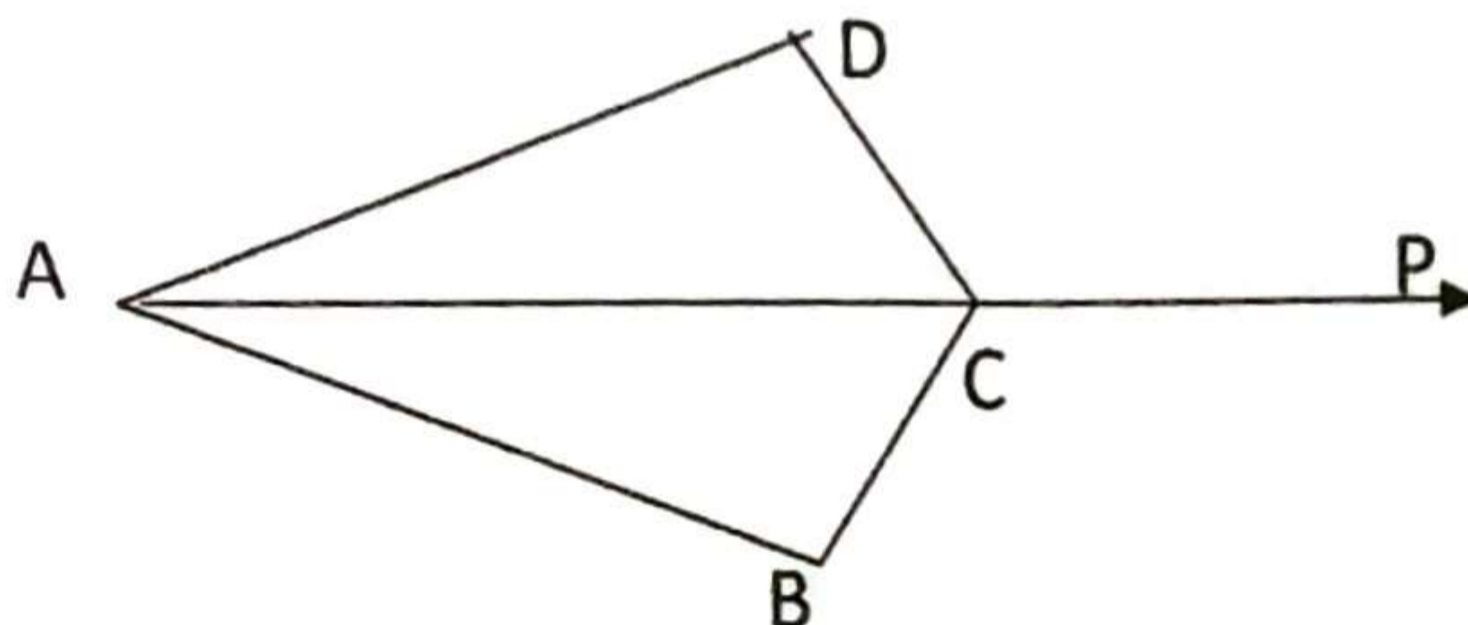**C.** In the figure given below EF=EG and HF=HG. Prove that ∠EFH =∠EGH.   **(3)**
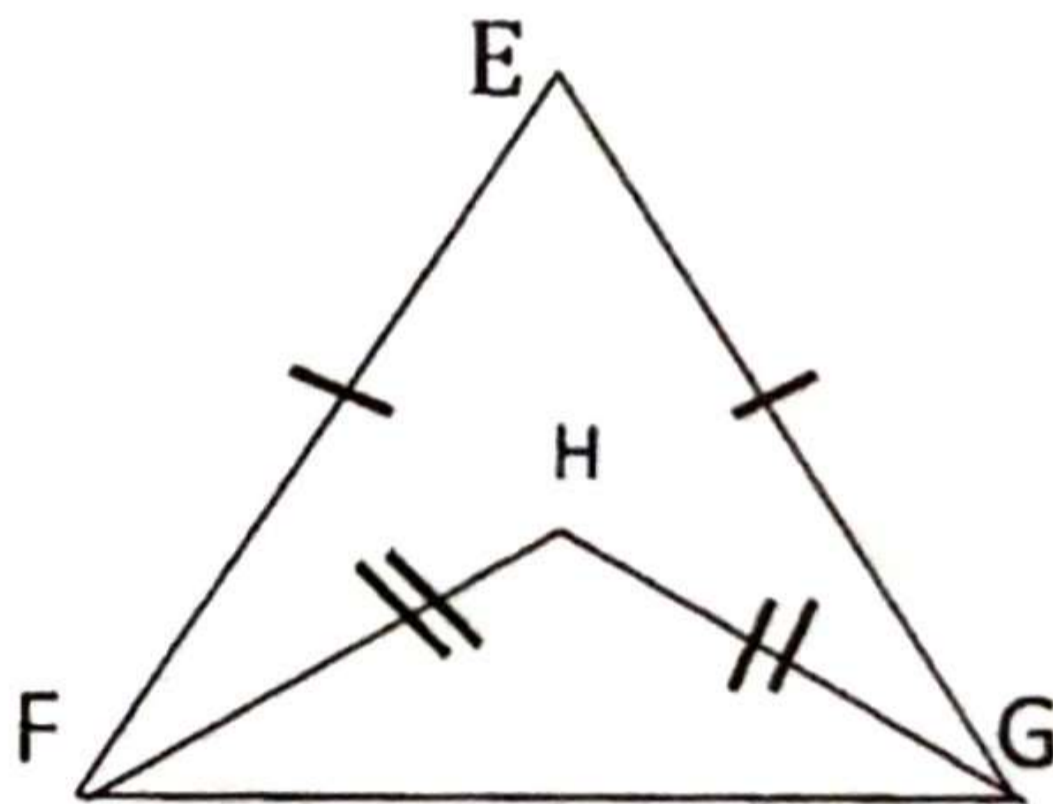
D. **Attempt the following :-** (4)

i) In the figure , $\angle B = \angle E$, $BD = CE$ and $\angle 1 = \angle 2$. Show that $\triangle ABC \cong \triangle AED$.

ii) In the figure , $\angle DAC = \angle BAC$ and $\angle DCP = \angle BCP$ Prove that $DC = BC$.

Q 7   **A)** Select and write the most appropriate alternative from those provided in the bracket. (1)

In a parallelogram ABCD, if $\angle BAD = 80^0$ then $m\angle CDA =$ _____

(80^0, 100^0, 180^0, 280^0)

B. 1.The angles of a quadrilateral are in the ratio 3:5:9:13. Find all the angles of a
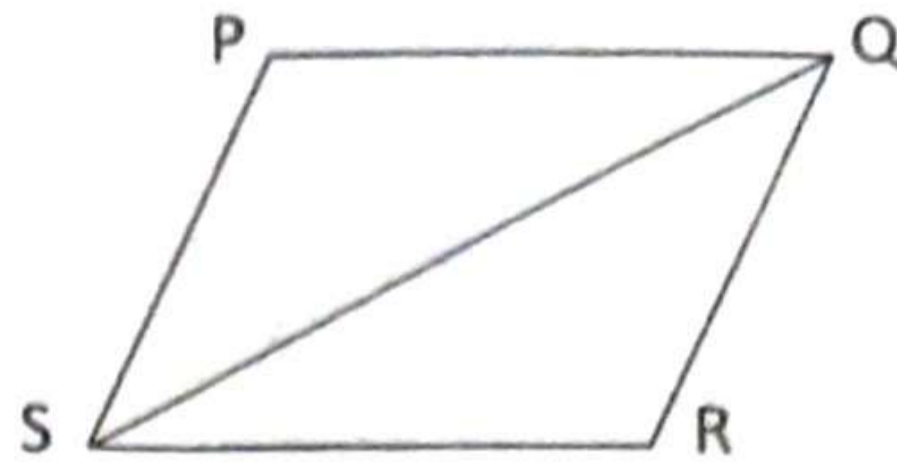quadrilateral. (3)

2. Write any two rational numbers between $\frac{1}{9}$ and $\frac{2}{9}$.

C) Observe the figure and complete the proof given below. (3)
   Show that a diagonal of a parallelogram divides it into two congruent triangle.

   Given: PQ II SR and PS II QR

   To prove that ΔPQS≅ΔRSQ

   Proof
   Consider ΔPQS and ΔRSQ
   Statement   Reason

   1. ∠PQS=_____   _____

   2. _____=∠RQS   _____

   3. SQ=SQ   _____

   4. ∴ ΔPQS ≅ ΔRSQ   _____
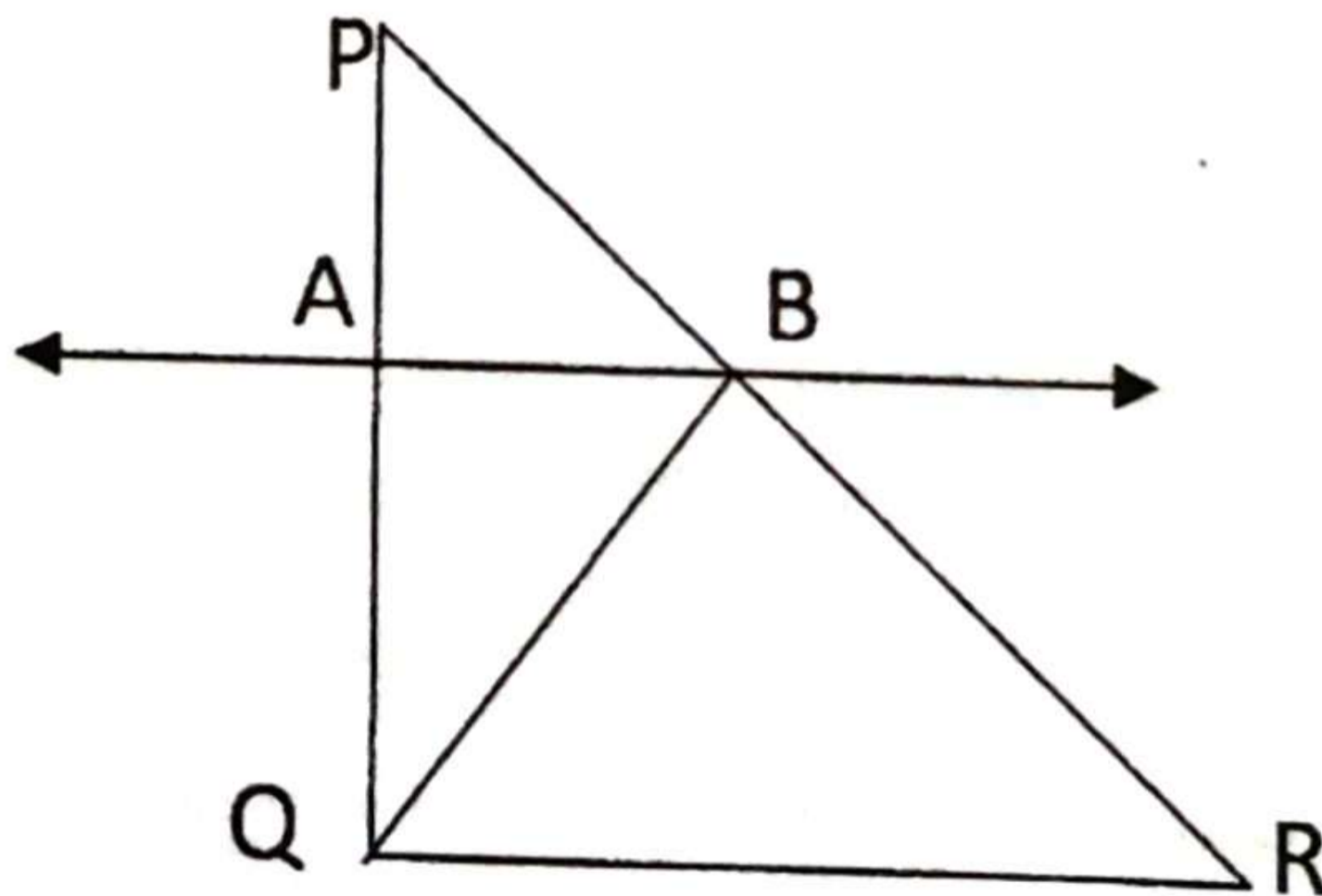
   ∴ The diagonal of a parallelogram divides it into two congruent triangles

D. Given :- PQR is a triangle right angled at Q. A line drawn through the mid point B of hypotenuse PR and parallel to QR intersect at A.
   (3)

   Show that $BQ=\frac{1}{2}$ PR

Q.8. **A.** Select and write the most appropriate alternative from those provided in the bracket. (1)

Inflation is persistent rise in general _____ of goods and services.

(demand, Price, supply, production)

B) Attempt the following : (2)

i) Why is gold loan considered to be the easiest loan to procure.

ii) In a particular village of 100 households on an average it is estimated that 2 people die every year. If estimated value of each person is Rs100000/-, what should be the contribution made by 100 people to compensate for this loss under risk insurance.

C. Mr. Raghunath is working as a Manager in a company at Verna Industrial Estate. His monthly income is Rs 25000/-. His planned and actual expenses are as follows. (3)

Cause	Planned expenses	Actual expenses
House rent	5000	5000
Conveyance	1800	1800
Food	7000	6500
Mobile	2000	2500
Clothes	3200	3200
Entertainment	2500	3000
Saving	3500	_____
Total	**25000**	**22000**

Answer the following :

i) How much did Mr Raghunath actually save after comparing his planned and actual expenses?

ii) In which area did he overspend?

iii) In which area did he spend less than he had planned?

D 1. Name the following.   (4)

  i)   Amount paid out of pocket by policy holder for the initial portion of a loss before the insurance   company pays.

  ii) Loan meant to meet personal needs.

  2. Mr. Melvin deposit Rs. 50,000 with SBI Bank. The bank keeps 20% of it as cash for meeting the withdrawal requirements of its customers and lends the remaining to Mrs. Carol. When Mrs. Carol deposits this amount in Canara Bank, Canara bank also keeps 20% of it and advances the remaining to Mrs. Linet.

  i) How much amount is left with SBI Bank?

  ii) How much amount is left with Canara bank?

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