

SATISH CHANDRA MEMORIAL SCHOOL

IX

MATHEMATICS

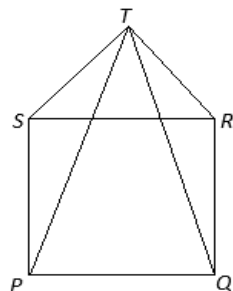
HOTS QUESTION TEST 2025-26

FM: 4X4=16

1. A fraction becomes $\frac{1}{2}$, if 2 is added to twice of both numerator and denominator. If 4 is added to 3 times the numerator and 5 added to 5 times to denominator it becomes $\frac{1}{3}$. Assuming the original fraction to be $\frac{x}{y}$, form a pair of linear equations in two variables for the problem. Find the original fraction.
2. Determine the point on the graph of the linear equation $2x + 5y = 19$, whose ordinate is $1\frac{1}{2}$ times its abscissa. Write another different equation passing through this point.
3. In figure, PQRS is a square and SRT is an equilateral triangle. Prove that:

(i) $PT=QT$

(ii) $\angle TQR = 15^\circ$



4. The perimeter of a triangle is 50 cm. One side of the triangle is 4cm longer than the smaller side and the third side is 6 cm less than twice the smaller side. Find the area of the triangle.