

from two points A, B above it; a plane is drawn through A perpendicular to AB : shew that its line of intersection with the given plane is perpendicular to EF .

I. 1 to 48.

441. ABC is a triangle, and P is any point within it: shew that the sum of PA, PB, PC is less than the sum of the sides of the triangle.

442. From the centres A and B of two circles parallel radii AP, BQ are drawn; the straight line PQ meets the circumferences again at R and S : shew that AR is parallel to BS .

443. If any point be taken within a parallelogram the sum of the triangles formed by joining the point with the extremities of a pair of opposite sides is half the parallelogram.

444. If a quadrilateral figure be bisected by one diagonal the second diagonal is bisected by the first.

445. Any quadrilateral figure which is bisected by both of its diagonals is a parallelogram.

446. In the figure of I. 5 if the equal sides of the triangle be produced upwards through the vertex, instead of downwards through the base, a demonstration of I. 15 may be obtained without assuming any proposition beyond I. 5.

447. A is a given point, and B is a given point in a given straight line: it is required to draw from A to the given straight line, a straight line AP , such that the sum of AP and PB may be equal to a given length.