
INTERMEDIATE CERTIFICATE EXAMINATION, 1964.

ELEMENTARY MATHEMATICS (GEOMETRY).

For girls only

FRIDAY, 5th JUNE.—Morning, 10 to 12.

All questions to be answered.All questions carry equal marks.

1. If one side of a triangle is greater than another, prove that the angle opposite the greater side is greater than the angle opposite the less.

2. Show, with proof, how to inscribe a circle in a given triangle.

3. Prove that the angle in a semicircle is a right angle.

P is any point inside a circle and AB is any diameter of the circle: prove that the angle APB is greater than a right angle.

4. Using ruler and compass only, construct

(i) a quadrilateral ABCD so that $\angle ABC = 60^\circ$, AB, BC and CD are each 2 inches long and the angle ACD is a right angle;

(ii) a triangle equal in area to the quadrilateral.

(No proof is required but construction lines should be clearly shown.)

5. AB is a straight line 3 inches long. Draw diagrams, one in each case, to show the locus of a point

(i) which is one inch from the straight line AB,

(ii) which is equidistant from the points A and B,

(iii) which is two inches from A and more than one inch from B.

(Say in each case what part of the diagram represents the locus.)

6. Prove that equal chords in a circle are equidistant from the centre.

PA and PB are two equal chords of a circle and PC is a diameter. Prove that PC is perpendicular to AB.