1960

1. On a base 3″ construct a triangle having one side 2·5″ and the sum of the base angles equal to the apex angle. Find the area of the triangle.

2. What do you know about the angles at the base of an isosceles triangle?

ABC is an isosceles triangle. D, E, and F are the middle points of the three sides. If these middle points are joined, show that the triangle DEF is also isosceles.

3. Show how to draw a straight line parallel to a given straight line, through a given point, (*a*) using a protractor, (*b*) without using a protractor.

4. P is a point inside the triangle ABC. Show that AB+BC are greater than AP+PC. It will help you if you produce AP to meet BC.

5. The diameter of a circle is 10 cm. Find, by drawing an accurate diagram, the length of a chord which is 3 cm. from the centre. What is the locus of the middle point of that chord, if it moves round inside the circle?

6. The straight line which joins the middle points of any two sides of a triangle is parallel to the third side.
Use that information to construct the triangle when you are given the middle points of the three sides.

7. Show how to divide a line 3″ long into two parts in the ratio 4 : 3.

8. When are alternate angles equal?
Using only a ruler and compass, draw a triangle whose height is 2·5″, and which has 45° in one of the base angles and 60° in the other. Explain the construction.