

Hong Kong Mathematics Olympiad 2008 – 2009

Heat Event (Geometric Construction)

香港数学竞赛 (2008 – 2009)

初赛项目(几何作图)

1. In Figure 1, A , B and C are three fixed points. Construct a circle passing through the three given points.

如图一， A 、 B 及 C 为三定点。试构造一穿过该三点的圆。

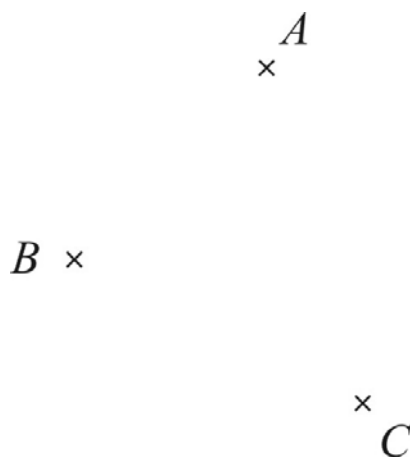


Figure 1

图一

2. In Figure 2, AB is the base of a triangle ABC , and the length of BD is the sum of the lengths of BC and CA . Given that $\angle ABC = 60^\circ$, construct the triangle ABC .

如图二， AB 为三角形 ABC 的底，且 BD 的长度是 BC 及 CA 长度之和。已知 $\angle ABC = 60^\circ$ ，试构造三角形 ABC 。

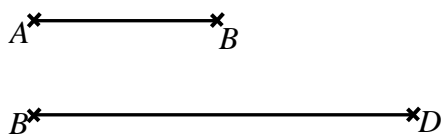


Figure 2

图二

3. In Figure 3, $\triangle ABC$ is an acute angle triangle. P_1 is a point on AC . Construct a triangle P_1XY such that X is a point on AB , Y is a point on BC and the perimeter of P_1XY is the least.

如图三， $\triangle ABC$ 为一锐角三角形。 P_1 是 AC 上的一点。试构造三角形 P_1XY ，使得 X 及 Y 分别为 AB 及 BC 上的一点，且三角形 P_1XY 的周界为最小。

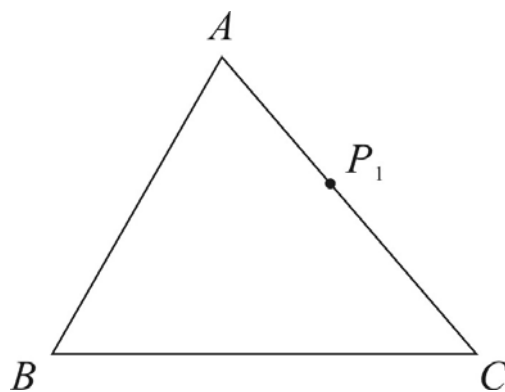


Figure 3

图三