AMT.

AUSTRALIAN MATHS TRUST

Maths Challenge
intermediate: Years 9–10
Practice Problem

I4: Crossings

Five pins are inserted on a board so that no three are in a straight line. Each pair of pins has a straight piece of elastic string tied to them. A point, other than a pin, at which two strings meet is called a *string intersection*.

I4: Questions

a. Show how to place the five pins so that the number of string intersections is exactly 5.

b. Move one of the pins so that the number of string intersections is reduced to exactly 3.

c. What is the minimum number of string intersections with five pins? Justify your answer.