

MATHEMATICS

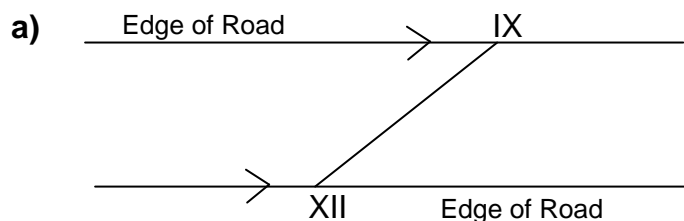
Level One

“Road Works”

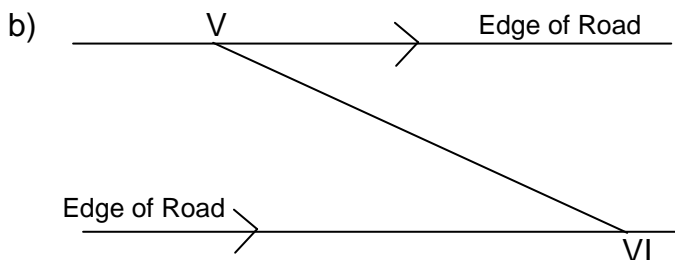
Setting: Surveying has endless possibilities in terms of applications and uses in the real world. One application is roading. Surveyors are employed to set out of new roads and map existing roads.

Task One

Find the width of the roads from the information given. In both cases the road has a bearing of 90° .



The line IX-XII is measured at bearing of 240° from north and a distance of 40.4m



The Line V-VI is measured at a bearing of 135° and a distance of 34.5m.

Task Two:

Setting: The town planners in Auckland City have decided to attempt to solve the traffic jams caused on the harbour bridge by putting in a tunnel, under the harbour.

The width of the harbour is 400m and the distance between the centrelines of the two roads is 775m. What is the bearing of the tunnel when travelling from North to South?

