Route inspection

Answers

Further Maths topic practice

This topic online

Q	Answer	Marks
1	Repeat BE and DE; length 70 km	4
2	**a)** BC and DE **b)** 91 hundred metres	5
3	**a)** Semi-Eulerian: exactly two vertices, T and U, have odd degree **b)** Start at T, finish at U (or the reverse); 75 km **c)** 85 km	5
4	**a)** 95 m **b)** BD, CE, EF **c)** 117 m	6
5	**a)** 206 hundred metres **b)** Start at C, finish at E (or the reverse); 183 hundred metres	7
6	**a)** B, C, D, G are the vertices of odd degree **b)** 3730 m; BC, DF, FG	6
7	**a)** All vertices have even degree (Eulerian); 89 km **b)** 2 times **c)** 97 km	7
8	**a)** 69 km **b)** For example ABCDBDFCEFDA **c)** 3	7
9	**a)** 235 m; CE and DE **b)** 229 m; shorter by 6 m	7
10	**a)** 95 + x **b)** x = 17	8
11	**a)** 12.4 km; BE and GH **b)** 37 minutes **c)** B and G; 10.8 km	9
12	**a)** 174 miles **b)** Finish at E; 155 miles **c)** CF **d)** A route ends at an odd vertex unless every vertex is even; finishing at an even vertex means all four odd vertices must be paired, which is longer.	10

Full worked solutions, written out by hand, are on the solutions sheet for this topic.

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