

The map shows some of the towns and roads on the Isle of Man.

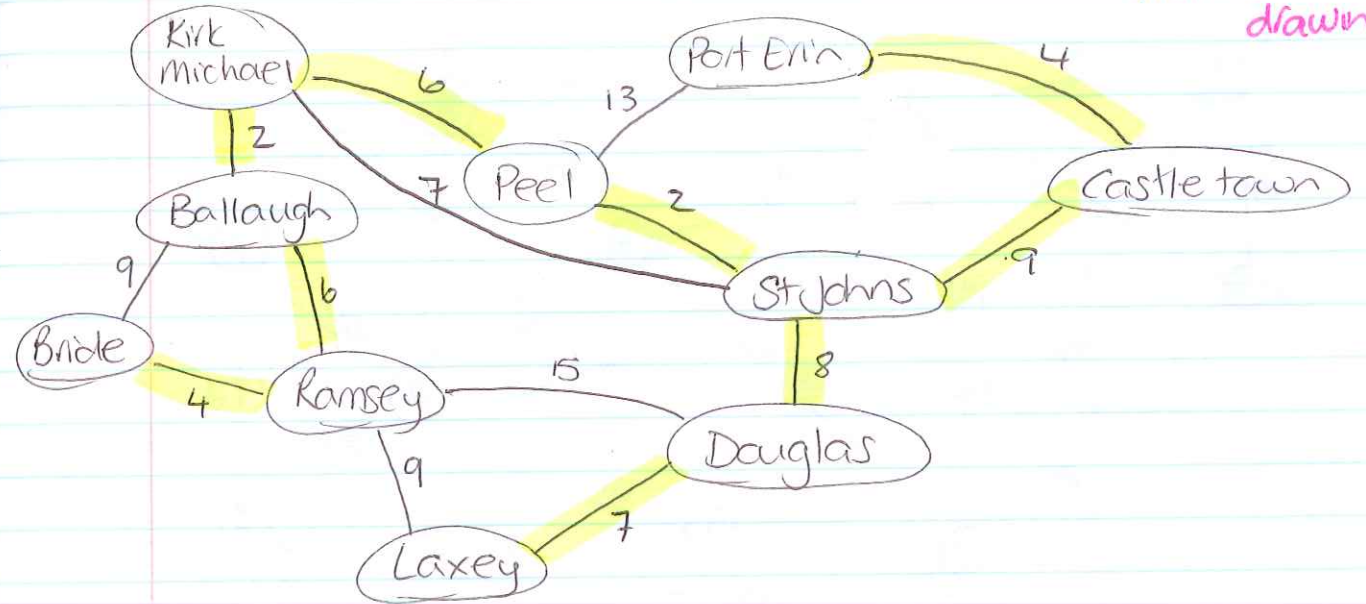
A cable TV company wants to lay cables to connect the towns, laying the cable along the roads shown on the map.

They want to connect all of these towns to their cable network using the minimum total length of cable.

The length of the roads joining adjacent towns is given in miles in the chart below. Note that a dash (-) means there is no direct route between the towns.

Ballaugh	9	Bride	-	Castletown	10	Douglas	-	Kirk Michael	-	Laxey	-	Peel	-	Port Erin	13	Ramsey	-	St. Johns	-
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Cable TV worked solutions.



Attempt 2 at drawing 😊

Minimum length of cable → minimum spanning tree.
 Arcs added in following order (smallest →)

- ① Kirk Michael - Ballaugh (2)
 - ② Peel - St. Johns (2)
 - ③ Bride - Ramsey (4)
 - ④ Port Erin - Castle town (4)
 - ⑤ Ballaugh - Ramsey (6)
 - ⑥ Peel - Kirk Michael (6)
 - ⑦ Laxey - Douglas (7)
 - ⑧ St. Johns - Douglas (8)
 - ⑨ St. Johns - Castle town (9)
- not Ballaugh - Bride (9) as makes a circuit
 not Ramsey - Laxey (9) as spanning tree completed.

Minimum total length of cable is
 $2 + 2 + 4 + 4 + 6 + 6 + 7 + 8 + 9 = 48$ miles.