8.

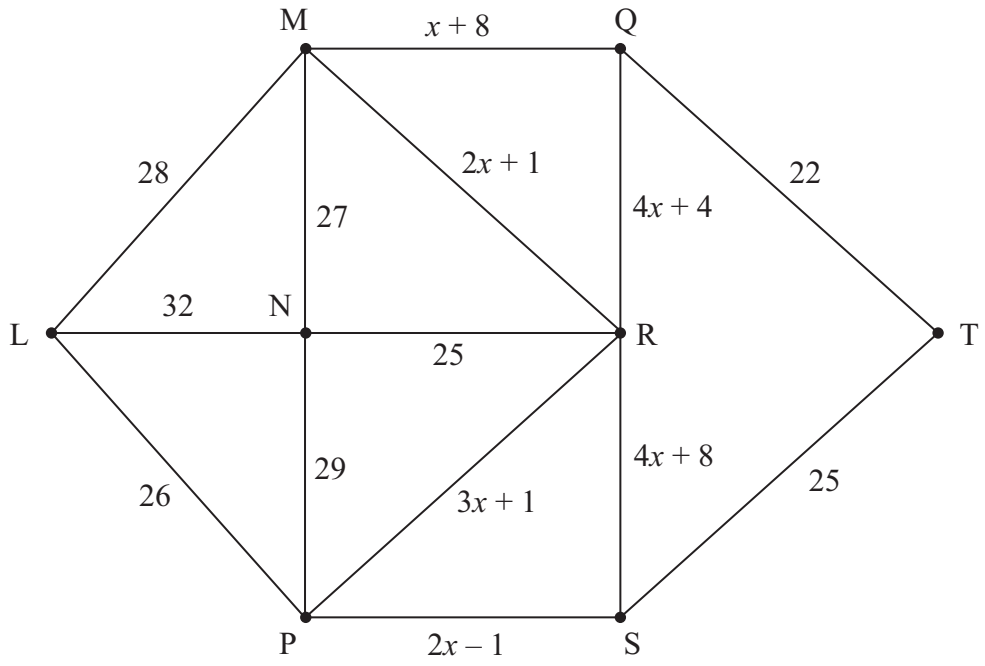


Figure 4

[*The total length of the network is 16x + 235*]

Figure 4 shows a network of cables between eight computer stations, L, M, N, P, Q, R, S and T. The number on each arc is the distance, in metres, between the corresponding nodes, where x is an unknown value less than 12

(a) State whether LMNPRST is an example of a path, giving reasons for your answer.

(2)

An engineer must check every cable for damage. She must find a route of minimum length, which travels along every cable at least once, **starting** at **L** and **finishing** at **T**.

Given that each of the two possible routes repeats exactly 3 arcs,

(b) determine the range of possible values of x

(5)

Given that the two possible routes have the same length,

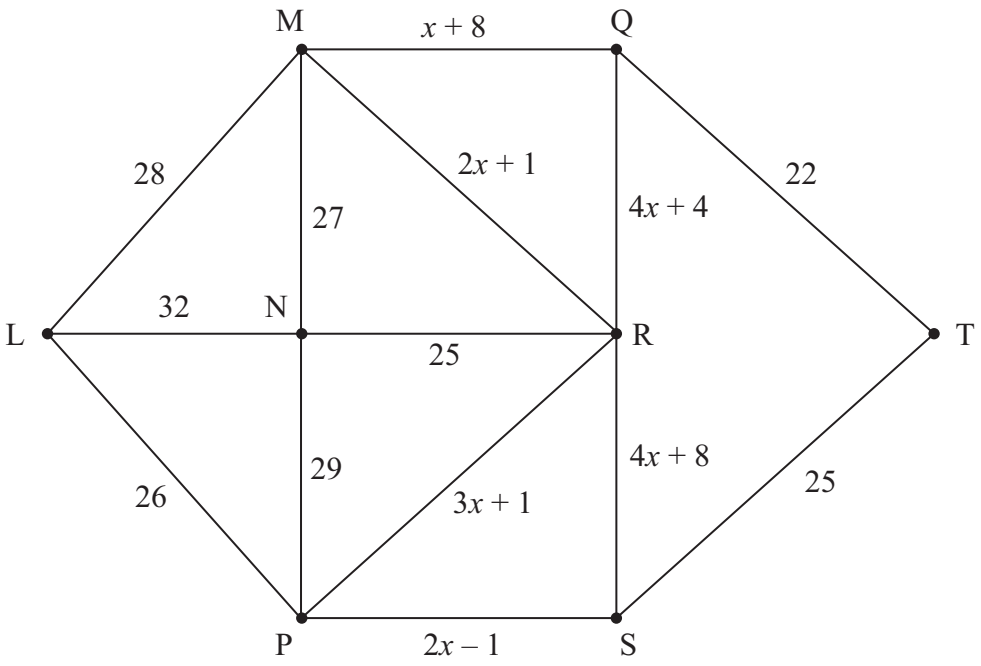
(c) calculate the length of the route, justifying your answer.

(3)

(Total for Question 8 is 10 marks)

TOTAL FOR PAPER IS 75 MARKS

8.



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Question 8 continued

Question 8 continued

(Total for Question 8 is 10 marks)

TOTAL FOR PAPER IS 75 MARKS

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