Networks - Practice test 2

Name: _____ Date: _____

16 questions | 40 marks | 55 minutes

Translate and compare tables and diagrams.

No calculator needed.

1. What does a 1 mean in a simple connection table? [2 marks]

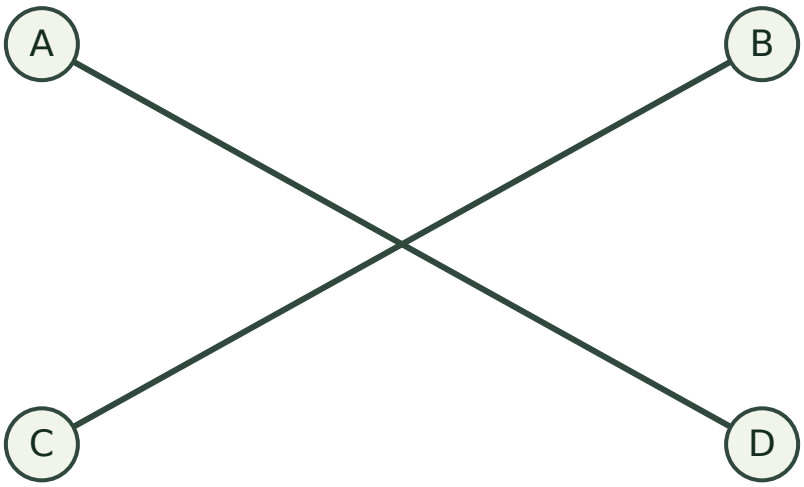
2. List each edge in this table once. [3 marks]

From / to	A	B	C	D
A	0	1	0	1
B	1	0	1	0
C	0	1	0	1
D	1	0	1	0

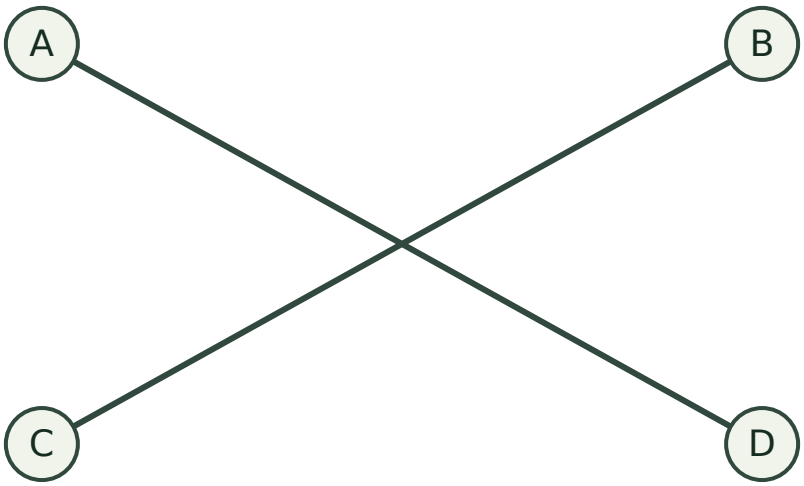
3. Draw the network W-X-Y-Z with no extra links. [3 marks]

4. Five computers A-E have cables AB, BC and CD only. Which computer is isolated? [2 marks]

5. How many components are in the crossing-edge diagram? [2 marks]



6. Can a traveller turn from AD onto BC at the unmarked crossing? Explain. [2 marks]



7. Why must an undirected connection table be symmetric? [2 marks]

8. A symmetric zero-diagonal table has eighteen 1s. How many edges? [2 marks]

9. Two labelled networks have every vertex of degree 2. Is that enough to establish identical networks? [3 marks]

10. P has AB,BC,CD,DA. Q has BA,DC,CB,AD. Are they identical undirected labelled networks? [2 marks]

11. For edges AB, AC, AD find the descending degree sequence. [2 marks]

12. A route is A-B-C-D-E. How many edges are used? [2 marks]

13. Components are {P,Q,R}, {S,T}, {U}. Find the minimum extra edges for connectedness. [3 marks]

14. Components are {P,Q,R}, {S,T} and {U}. Give two new links that connect all components. [3 marks]

15. A transport map is redrawn with curved edges. What must remain unchanged for it to represent the same network? [3 marks]

16. Services AB and BC exist, but departure times prevent a same-day connection. Explain why the network route may be misleading. [4 marks]