Practice worksheet | Matrices and networks

Shortest/longest paths

Name: _____ Date: _____

6 questions | 12 marks

1. P→Q→S weighs $4+8$ and P→R→S weighs $7+2$. Which is shorter? [2 marks]

2. Edges are A→B (8), A→C (3), C→B (2), B→D (4), C→D (9). Find the shortest A-to-D path. [2 marks]

3. In that same acyclic network, find a longest A-to-D path. [2 marks]

4. A route takes 18 min; a direct one-edge route takes 20 min. Which is faster? [2 marks]

5. Can a route using a closed road be the shortest feasible route? [2 marks]

6. A→B has weight 2 and B→A weight 3. Is there a longest A-to-A walk when repetition is allowed? [2 marks]