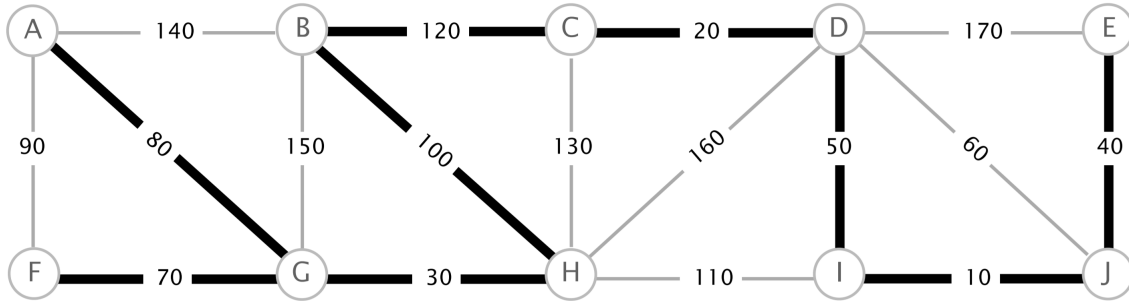


For answers that involve filling-in a , fill-in the shape completely: .

Consider the following undirected graph G containing 10 vertices and 17 edges with distinct edge weights. The thick black edges T define a spanning tree of G but not a minimum spanning tree of G .



1. Which of the following edges are in the (unique) MST of G ? Mark all that apply.

- | | | | | |
|------------------------------|---|---|------------------------------|---|
| <input type="checkbox"/> A-B | <input checked="" type="checkbox"/> A-G | <input type="checkbox"/> B-C | <input type="checkbox"/> B-G | <input checked="" type="checkbox"/> B-H |
| <input type="checkbox"/> C-H | <input type="checkbox"/> D-H | <input checked="" type="checkbox"/> D-I | <input type="checkbox"/> D-J | <input checked="" type="checkbox"/> H-I |

2. Find a cut in G whose minimum weight crossing edge is not an edge in T . Mark the vertices on the side of the cut containing vertex A.

- | | | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|----------------------------|----------------------------|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E |
| <input checked="" type="checkbox"/> F | <input checked="" type="checkbox"/> G | <input checked="" type="checkbox"/> H | <input type="checkbox"/> I | <input type="checkbox"/> J |