✓ **Congratulations! You passed!**
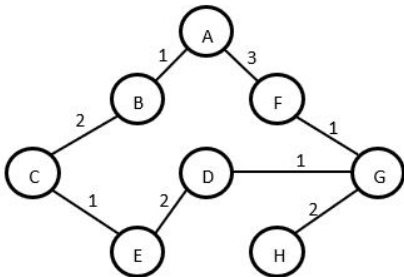
Grade received 100%   **Latest Submission Grade** 100%   **To pass** 80% or higher

Go to next item

1. Consider the undirected graph shown below:

1 / 1 point
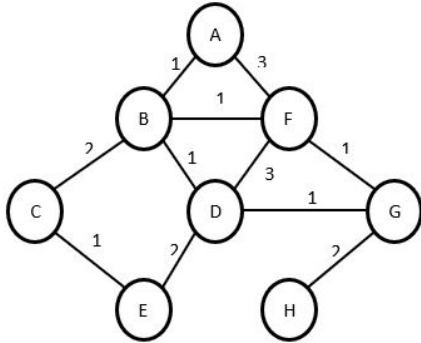
Here is a claimed spanning tree of the graph.

Select all the correct facts from the list below.

☑ The claimed spanning tree is not an actual tree since it has a cycle.

✓ **Correct**
Correct.

☐ The claimed spanning tree is not an actual tree since it leaves out one of the nodes in the original graph.

☑ Removing the edge A- F from the claimed spanning tree will make it a spanning tree.
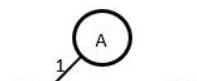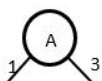
✓ **Correct**
Correct.

☐ Removing the edge A-F from the claimed spanning tree yields a minimal spanning tree of the graph.
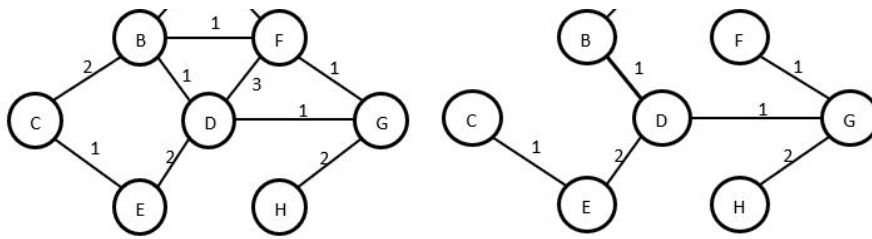
☑ A spanning tree for a graph with 8 nodes will have 7 edges.

✓ **Correct**
Correct.

2. Consider the graph again and what is claimed to be a **minimal** spanning tree on the right.

1 / 1 point

Select all the correct facts from the list below.

- [x] The tree shown is in fact a minimal spanning tree of the graph.

> ✓ **Correct**
> Correct.

- [ ] The tree shown is not a minimal spanning tree since adding the edge B-F and removing the edge B-D gives us a spanning tree with smaller weight.

- [x] The tree shown is not a *unique* minimal spanning tree: i.e, there are other spanning trees with the same total weight.

> ✓ **Correct**
> Correct. For instance, add the edge B-F and remove the edge B-D to get another MST for the graph.

- [ ] Adding the edge B-F and removing the edge A-B from the spanning tree yields a spanning tree as well.

- [x] Adding the edge C-B to the spanning tree and removing the edge D-E yields a minimal spanning tree as well.

> ✓ **Correct**
> Correct. This tree has the same weight as the original tree.