The following are based on Chapter 23 of the textbook, on minimum spanning trees.

1. (1 pt.)

    • This *quick check* is **closed book, notes, etc.**
    • Use the textbook's conventions and terminology.

    Read the above carefully; then write your name below:

2. (2 pts.) The two algorithms for minimum spanning trees mentioned at the beginning of Chapter 23 are (write their names):

3. (2 pt.) The algorithm design strategy used by both algorithms of Question 2 is (name the strategy [e.g., "dynamic programming"]):

4. (2 pts.) Every graph has (circle the *most precise* correct answer):
   [e.g., don't select "zero or more" if "one or more" is also correct.]
   (a) one or more (b) exactly one (c) at most one (d) zero or one (e) zero or more
   ɟminimum spanning tree(s).

5. (2 pt.) An edge that has the minimum weight of all edges crossing a *cut* is defined as a (write the name):

6. (2 pts.) In the context of the textbook's GENERIC-MST algorithm, what is a *safe edge*? (Provide as precise a definition as you can in a few sentences.)

7. (2 pts.) The two main operations of the *disjoint-set* data structure as used by the MST-KRUSKAL algorithm are (name them):

8. (2 pt.) The main data structure used by the MST-PRIM algorithm is (name it):