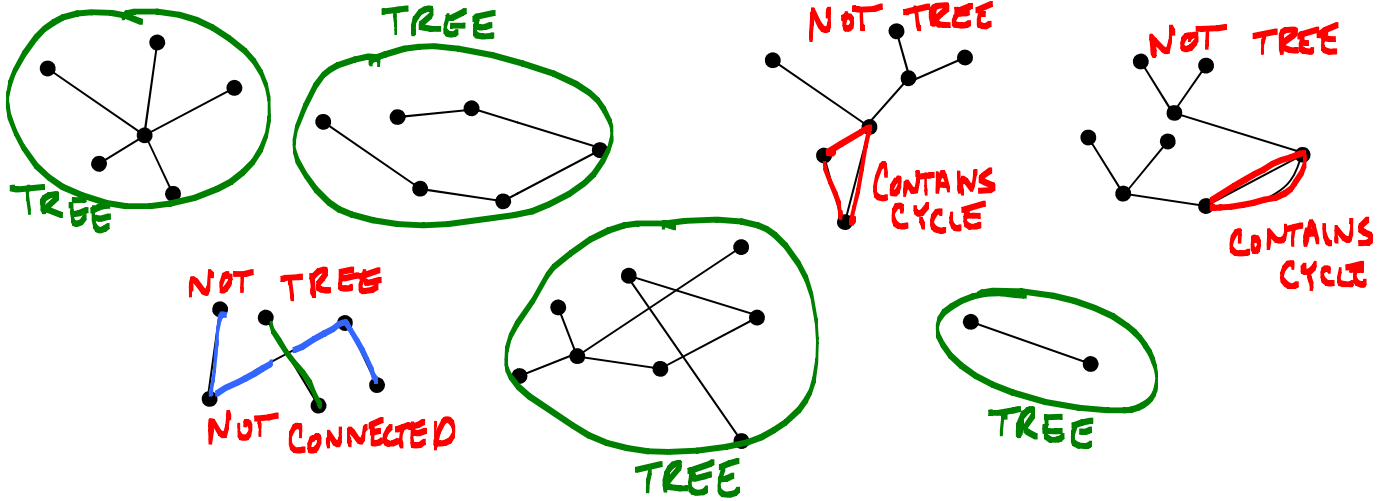
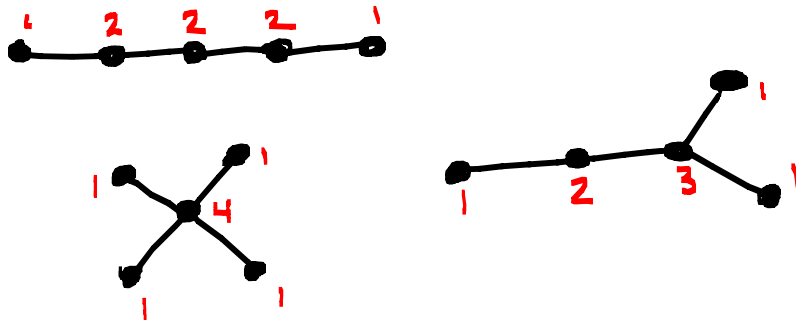


A **tree graph** is a graph that is **CONNECTED** and **doesn't contain any CYCLES**.

1. Which of the following are trees? (If it is not a tree explain why.)



2. Show every possible way of drawing a tree with 5 vertices.



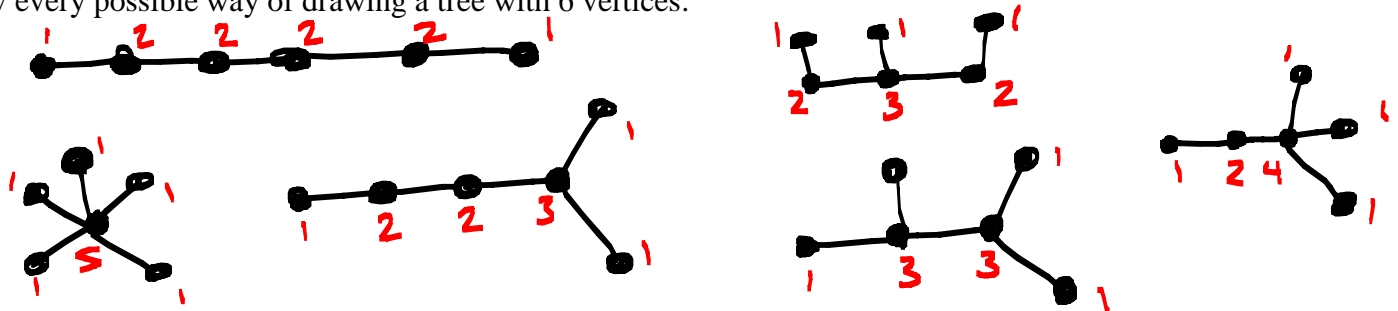
What is the sum of the degrees of each vertex in each one of your diagrams above?

$$1 + 2 + 2 + 2 + 1 = 8$$

$$1 + 1 + 1 + 1 + 4 = 8$$

$$1 + 2 + 3 + 1 + 1 = 8$$

3. Show every possible way of drawing a tree with 6 vertices.



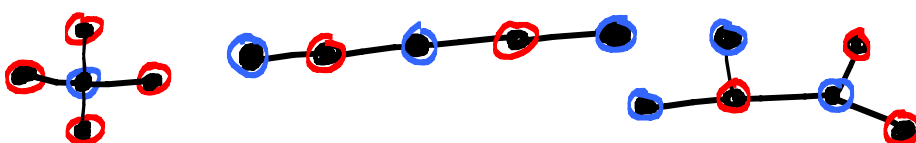
What is the sum of the degrees of each vertex in each one of your diagrams above?

$$1 + 2 + 2 + 2 + 2 + 1 = 10$$

$$1 + 1 + 1 + 1 + 1 + 5 = 10$$

$$1 + 2 + 2 + 3 + 1 + 1 = 10$$

4. What is the chromatic number of any tree graph?



THE CHROMATIC NUMBER OF ANY TREE GRAPH SHOULD BE 2.