

Suggestions for Non-Quiz Student Assessments

All of these assessments can be done as in-class activities, either alone or in small groups.

To assess whether students understand how to translate social networks to graphs:

- Make up additional social networks like our worksheets in Activity 3 and have students draw graphs to represent them.
- Have them draw graphs of social networks depicted in books or movies.

To assess whether students understand the mean and variance as they relate to the degree of the vertices in the graph:

- For any of the activities above, have them calculate the mean and variance of the degrees in the graph.

To assess whether students understand some of the basics of graph theory: Have them "prove" the handshaking lemma: that the number of vertices with odd degree in any graph is even. (This follows from the argument that the sum of the degrees is equal to twice the number of edges.)

To assess whether students understand how graphs can be used to model other situations (this is not an explicit goal of our lesson, so this assessment may make more sense as an "extra credit" activity):

- Present students with other situations and see if they can recognize what vertices in the graph would be and what the edges would be. For instance, given a map that depicts major cities in your country and highways that connect them, the cities would be vertices; two cities would have an edge between them if there was a road directly connecting the two.