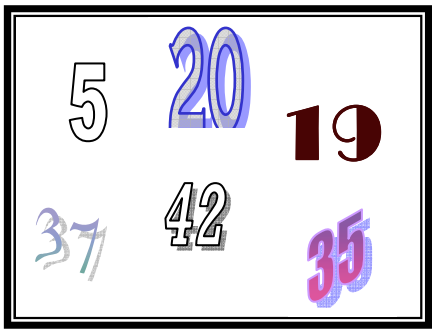
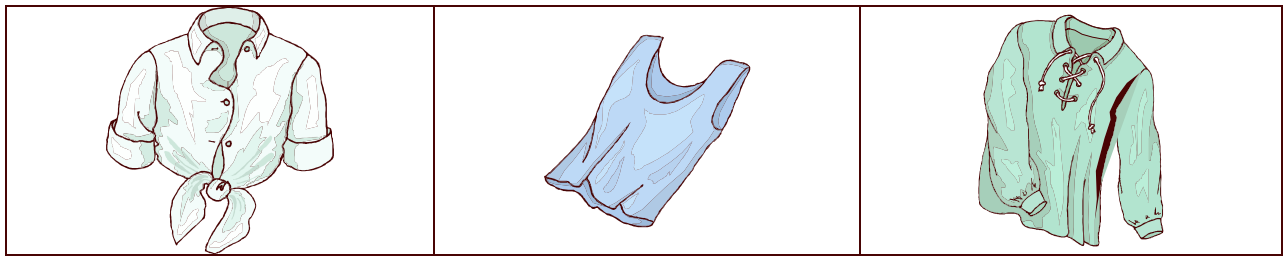
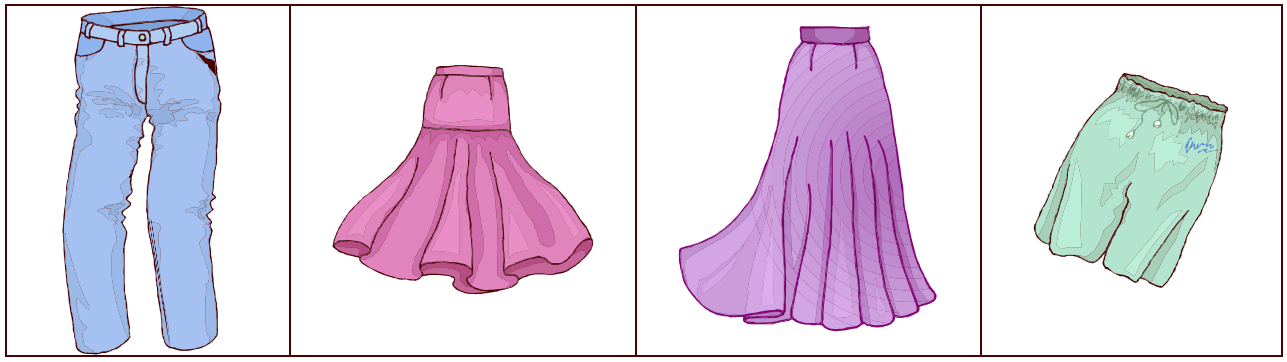
How Many Ways?

Objective: The students will count the number of ways of performing a task by constructing a vertex-edge graph.

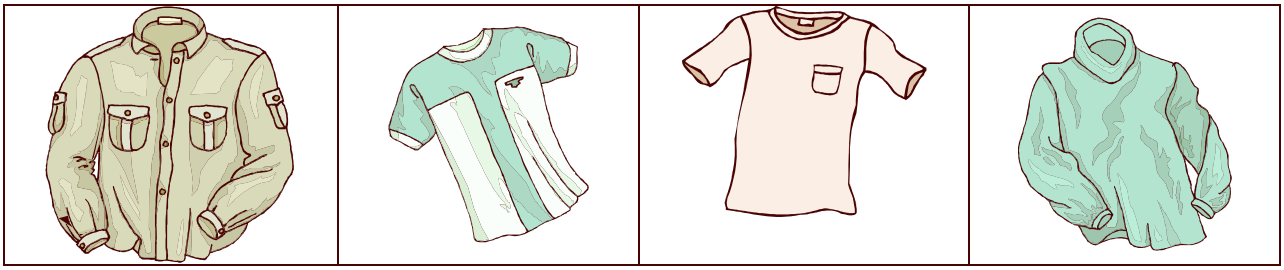


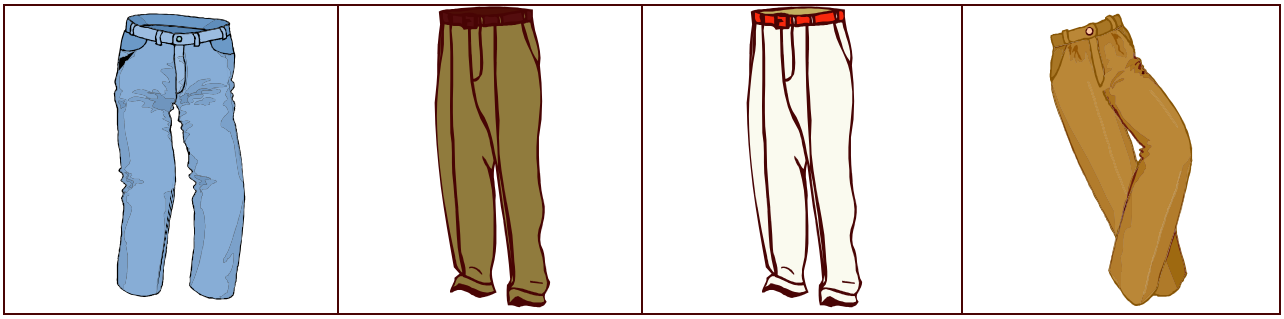
Problem 1: Megan will be taking a trip, but she cannot take too many things because of size and weight restrictions on her luggage. Therefore, she is trying to select a few clothes to take. How many different outfits can she have if she takes the selected items included here? Draw a vertex-edge graph to depict all clothing combinations that are possible.





Problem 2: Rob will be taking a trip, but he cannot take too many things because of size and weight restrictions on his luggage. Therefore, he is trying to select a few clothes to take. How many different outfits can he have if he takes the selected items included here? Draw a vertex-edge graph to depict all clothing combinations that are possible.





Problem 3: A penny, a nickel, and a dime are tossed. How many different ways can these three different coins land? Draw a vertex-edge graph to depict all combinations of outcomes that are possible.

Question: How do the graphs associated with these three problems demonstrate the counting rule that is being used? Write a sentence to explain your thoughts.