1

There are exactly 6 teams in league x. What was the total number of games played by the 6 teams last season?

(1) Each team in league x played each of the other teams at least once.

(2) No team in league x played more than 7 games.

2

The integers n and t are positive and $n > t > 1$. How many different subgroups of t items can be formed from a group of n different items?

(1) The number of different subgroups of $n - t$ different items that can be formed from a group of n different items is 680.

(2) $nt = 51$

3

A certain panel is to be composed of exactly three women and exactly two men, chosen from x women and y men. How many different panels can be formed with these constraints?

(1) If two more women were available for selection, exactly 56 different groups of three women could be selected.

(2) $x = y + 1$

4

How many different 5-person teams can be formed from a group of x individuals?

(1) If there had been $x + 2$ individuals in the group, exactly 126 different 5-person teams could have been formed.

(2) If there had been $x + 1$ individuals in the group, exactly 56 different 3-person teams could have been formed.

5

Sammy has x flavors of candies with which to make goody bags for Franks birthday party. Sammy tosses out y flavors, because he doesnt like them. How many different 10-flavor bags can Sammy make from the remaining flavors? (It doesnt matter how many candies are in a bag, only how many flavors).

(1) If Sammy had thrown away 2 additional flavors of candy, he could have made exactly 3,003 different 10-flavor bags.
(2) $x = y + 17$