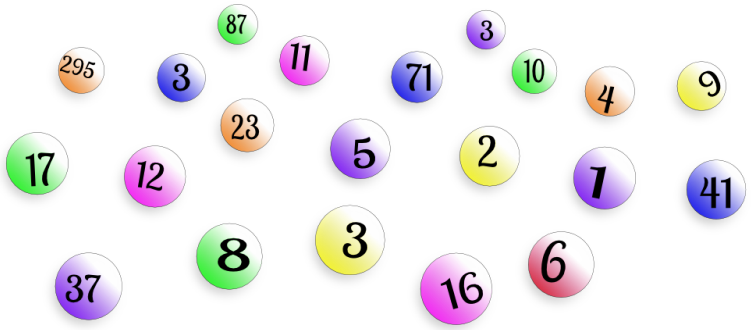
Math Challenge Problem

for early April, 2015

Selecting Sums of Sevens



In the mythical land of Sevenia, the lottery is played with a huge collection of ping pong balls. Each ball is one of seven different colors and contains a number printed on it which is definitely not a multiple of seven (the secrets of the lottery are steeped in secrecy; you don't know which numbers are included or how often).

Each week one lucky contestant gets to fish out a bucket of balls. If among those randomly selected balls there is some subset which are all the same color and whose numbers sum to a multiple of seven, the contestant wins seven bags of gold. Of course the seven members of the *Senate of Seven* want to ensure that nobody is guaranteed to win just by picking enough balls.

The Challenge: What is the largest number of balls a contestant could draw without being guaranteed a win?

Submit solutions to Ross 2239G or `oscar.levin@unco.edu` by **Friday, April 17**.

The best solution will be announced at the following Math Club (Tuesdays at 4:30) and WIN A PRIZE!
Prizes include nifty Rubik's style puzzle cubes, math puzzle books, math games, even a math coloring book. So submit your answer TODAY!