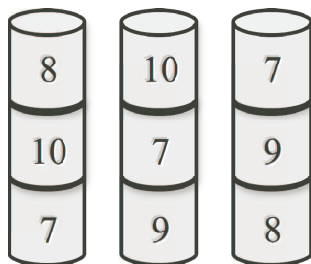


Problem of the Week

Grade 9 and 10

Step Right Up

In a certain carnival game nine numbered paint cans are stacked as shown:



The rules of the game are as follows:

1. Each player gets exactly three turns, one throw per turn.
2. On each throw you are allowed to knock down exactly one can. If your throw hits any can but the top can you will knock down more than one can and lose. If you completely miss the cans on a turn it is not possible to score enough points to win and therefore you lose.
3. Your score on the first throw is the number on the can that you knocked down. Your score on the second throw is two times the number on the can that you knocked down. Your score on the final throw is three times the number on the can that you knocked down.
4. You are a winner if the sum of your scores from your three turns is exactly 50 points. If the sum is under 50 points, you lose. If the sum is over 50 points, you lose.

Describe precisely the different ways you can win the game. Good luck - everyone's a winner!

