Mathematics Problem 279:

There was no winner for Problem 279.

The probability of winning is as follows:

There are 6^3 total $= 216$ outcomes

Winning can occur on the three tosses as shown below

Case I: Only one toss is correct W (two incorrect L tosses).

WLL or LWL or LLW.

$$\text{Probability(one W)} = 3\left(\frac{1}{6}\right)\left(\frac{5}{6}\right)\left(\frac{5}{6}\right) = \frac{75}{216}$$

Case II: Two correct tosses and one incorrect toss.

WWL or LWW or WLW.

$$\text{Probability(two W)} = 3\left(\frac{1}{6}\right)\left(\frac{1}{6}\right)\left(\frac{5}{6}\right) = \frac{25}{216}$$

Case III: Three correct tosses.

WWW.

$$\text{Probability(three W)} = \left(\frac{1}{6}\right)\left(\frac{1}{6}\right)\left(\frac{1}{6}\right) = \frac{1}{216}$$