- Keiko tosses one penny and Ephraim tosses two pennies. The probability that Ephraim gets the same number of heads that Keiko gets is

  (A) $\frac{1}{4}$ (B) $\frac{3}{8}$ (C) $\frac{1}{2}$ (D) $\frac{2}{3}$ (E) $\frac{3}{4}$

- Bicycle license plates in Flatville each contain three letters. The first is chosen from the set $\{C, H, L, P, R\}$, the second from $\{A, I, O\}$, and the third from $\{D, M, N, T\}$. When Flatville needed more license plates, they added two more letters. The new letters may be added to one set, or one letter may be added to one, and one to another set. What is the largest possible number of *additional* license plates that can be made by adding two letters?

  (A) 24   (B) 30   (C) 36   (D) 40   (E) 60

- A bag contains four pieces of paper, each labeled with one of the digits 1, 2, 3, or 5, with no repeats. Three of these pieces are drawn one at a time without replacement, to constrct a three-digit number. What is the porbability that the three-digit number is a multiple of 3?

  a) ¼   b) ⅓   c) ½   d) ⅔   e) ¾

- Jeff rotates spinners P, Q and R and adds the resulting numbers. What is the probability that his sum is an odd number?
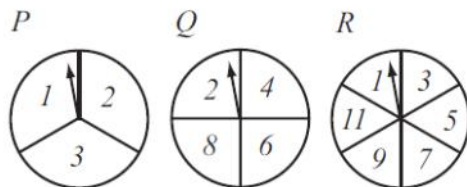
  (A) $\frac{1}{4}$ (B) $\frac{1}{3}$ (C) $\frac{1}{2}$ (D) $\frac{2}{3}$ (E) $\frac{3}{4}$

- The Little Twelve Basketball Conference has two divisions, with six teams in each division. Each team plays each of the other teams in its own division twice and every team in the other division once. How many conference games are scheduled?

  (A) 80   (B) 96   (C) 100   (D) 108   (E) 192

- A five-legged Martian has a drawer full of socks, each of which is red, white or blue, and there are at least five socks of each color. The Martian pulls out one sock at a time without looking. How many socks must the Martian remove from the drawer to be certain there will be 5 socks of the same color?

  (A) 6   (B) 9   (C) 12   (D) 13   (E) 15

- Two couples share a park bench. Neither couple wishes to be separated. Find the number of different seating arrangements, from a position in front of the bench, which allows the couples to stay together.

- A farmer offered to cut a log into 3 pieces for $5.00. How much should she charge to cut the log into 6 pieces?

- Of the 33 students in a class, 18 belong to the mathematics club, 17 belong to the science club, and 4 belong to neither club. What is the number of students who belong to both clubs?

- What is the maximum number of points of intersection of four distinct straight lines?

- Ryan has a bag that contains 3 black, 5 gold, 2 purple, and 6 red marbles. During the course of cleaning his room, Ryan finds some white marbles and adds them to the bag. Ryan tells his friend that if she now draws a marble at random from the bag, the probability of it being black or gold is 2/7. How many white marbles did Ryan add to the bag?