**Fiji Mathematics Team Competition – Zones**

**YEAR 7 – 2017**

F1/1 A square table can seat one person at each end. If 20 of these tables are pushed together end to end to make one long narrow table, how many persons can be seated?

F1/2 Which number does not belong in the list of primes?

F1/3 are 5 consecutive integers. If , then calculate the value of .

F1/4 A ball bounces 2/3 of the distance through which it falls. If the second bounce is 72cm, calculate the height, in cm, through which the ball originally dropped from?

F1/5 What percentage of the integers from 2 to 21 (both included) are exact multiples of 4?

F1/6 Suppose that . What is the value of ?

F1/7 Three stones are weighed on a scale, two at a time. The scale shows weights of 49 kg, 63kg, and 80 kg. How much does the heaviest stone weigh?

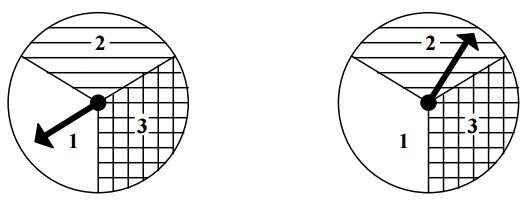
F1/8 Calculate the value of

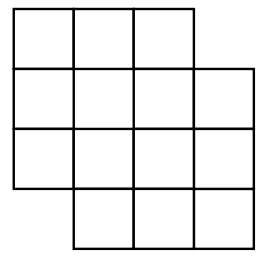


F1/9 What is the ones (last) digit of



F1/10 A class of 20 students achieves an average of 66% on an exam. A second class of 30 students achieves an average grade of 56% on the same exam. Calculate the average for the combined classes.

F1/11 The arrows of each of the wheels shown are randomly spun. The chance of obtaining a total on the two wheels less than 5 is:

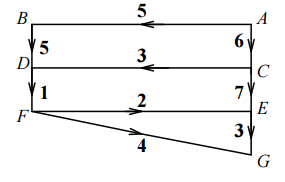
F1/12 How many different squares are there in the figure shown at right?

F1/13 Suppose M is a two digit number and that N is obtained by reversing the digits of M. If , how many different values can M have?

F1/14 A rectangular box has a volume of 4 m3. What is the volume of an identically shaped box whose surface area is four times as big?

F1/15 A rectangle has a perimeter of 24cm and one side is twice as long as another. What, in

square centimeters, is the rectangle’s area?

F1/16 The diagram represents a map with roads connecting some cities, denoted as Points A to G. Distances are indicated by the numbers given and travel is only possible in the direction of the arrows. What is the length of the shortest path from city A to city G?

F1/17 How many ways can the number 12 be expressed as a sum of exactly three distinct positive integers taken in increasing order? (e.g. )

F1/18 A theatre contains 15 rows of seats. The first row contains 15 seats. Each succeeding row has one more seat than the row immediately before it. How many seats does the theatre have?

F1/19 A square is divided into two equal rectangles. Each of these rectangles has perimeter 27 cm. What is the area of the original square?

F1/20 The average of four numbers is 24. If the largest number is left out, the average is 20. If the smallest is left out, the average is 30. What is the average of the middle two numbers?

**Tie Breaker:**

F1/21 The government decides to use new coins so that only 3 cent and 7 cent coins are used. Some amounts, like 5 cents, cannot be made exactly using the new coins. Which is the largest amount that cannot be made exactly with the new coins ?

F1/22 Sports cars are driven by men and each has two women as passengers. Sedan cars are driven by women and each has three men as passengers. If there are a total of 12 cars carrying a total of 43 persons, including the drivers, how many sports cars are there ?