

FIJI MATHEMATICS TEAM COMPETITION- Zone
YEAR 10 / FORM 4 – 2014

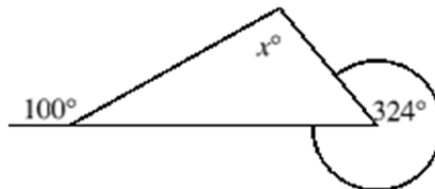
F4/1 All of the forty thieves were light- fingered, but only two of them were caught red-handed. What percentage is that?

F4/2 Two airplanes left the same airport at the same time, flying in opposite directions. One flew at 400 km/h and the other flew at 250 km/h. In how many hours will the distance between the two planes be 1625 km?

F4/3 Kelera has the same number of sisters as she has brothers, but her brother Tommu has twice as many sisters as he has brothers. If their family has fewer than 10 children, how many children are there?

F4/4 A student's score on the first four quizzes were 5, 4, 3, and 3. What score does she need on the fifth and final quiz to finish with a mean score of 4 on the five quizzes?

F4/5 In the diagram given what is the value of x?



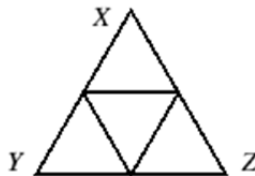
F4/6 The lightest seeds in the world are probably those of the Creeping Lady's - tresses Orchid, 500, 000 of which would weigh 1 gram. How many millions of these seeds weigh 1 kg?

F4/7 A farmer has 7 ducks, 8 hens and 6 roosters. How many more roosters should be bought so that half of his animals will be roosters?

F4/8 What is 40% of 30% of 8 (in decimals)?

F4/9 The ratio of girls to boys in Ms Lal's Maths class is 3:2. There are 30 children in the class. How many more girls than boys are there in the class?

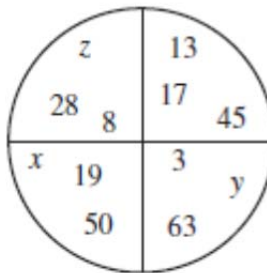
F4/10 The equilateral triangle XYZ is fixed in position. Two of the four small triangles are to be painted black and the other two are to be painted white. In how many different ways can this be done?



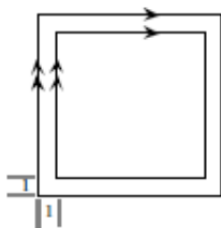
F4/11 An equilateral triangle has a side length of 20 cm. If a square has the same perimeter as this triangle, what is the area of the square?

F4/13 Last week, a charity fundraiser had 8 volunteers who each worked 40 hours and who each raised \$18 per hour. This week, 12 volunteers, each working 32 hours, raised the same total amount of money. How much did each volunteer raise per hour this week?

F4/14 In the diagram, the sum of the numbers in each quarter circle is the same. What is the value of $x + y + z$?



- F4/15 Eight squares with the same centre have parallel sides and are one unit apart. The two largest squares are shown. If the largest square has a perimeter of 96 cm, what is the perimeter of the second smallest square?



- F4/16 The average of a set of 10 numbers is 20. If one of the numbers is removed, then the average of the remaining numbers is 19. What is the number removed?

- F4/17 A store sold 213 bicycles during the year 2002. For the first few months they sold 20 bicycles per month, then for some months they sold 16 bicycles per month and in the remaining month(s) they sold 25 bicycles per month. For how many months did they sell only 16 bicycles per month?

- F4/18 Five paper bags contain a total of thirty apples.
- _ The first and second bags contain a total of fourteen apples.
 - _ The second and third contain a total of ten apples.
 - _ The third and fourth contain a total of nine apples.
 - _ The fourth and the fifth contain a total of twelve apples.
- How many apples are in the fifth bag?

F4/19 When Samuel took his place in the marching band, he was one person in a rectangular array of musicians. He noticed that he was 10th from the front, 7th from the back, 3rd from the left, and 8th from the right. How many musicians were in the band?

F4/20 A total of 1296 runners sign up for a 100 metre sprint. The track that they run on has 6 lanes and only the winner of each race advances to the next round. How many races must be won to determine a winner?

Tie Breaker

F4/21 In a magic square the sum of the numbers in every horizontal row, vertical column and diagonal are all the same. In this magic square, the row total is equal to 15.

x		6
	5	1

What is the value of x ?

F4/22 Ravindra and Hongshu made a pizza together. Ravindra ate $\frac{2}{5}$ of the pizza. Hongshu ate half as much as Ravindra. What percentage of the original pizza was left?
