

**Fiji Mathematics Team Competition - Zone**  
**FORM 3/YEAR 9 – 2014**

F3/1 What value do you get by subtracting 48 from four times  $-25$ ?

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F3/2 What is the ratio (in simplest form) of the length of a side of a square to its perimeter?

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F3/3 A train leaves A at 10.37, arriving at B at 11.05. On the way it stops at 4 places, spending an average of 45 seconds at each stop. For how many minutes between A and B is it actually moving?

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F3/4 A country's flag contains the colours green, red and blue. If two - fifths of the flag is green and one-third is red, how much of the flag is blue ( in smallest fraction)?

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F3/5 If 18% of 42 is equal to 27% of  $x$ , then what is the value of  $x$ ?

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F3/6 In the Kumar family, each child has at least 2 brothers and at least 1 sister. What is the smallest possible number of children in this family?

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F3/7 The sum of three consecutive numbers is 168. What is the sum of the second two numbers?

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F3/8 The average mark on the first 3 tests Jessica took was 76. What average mark does Jessica need on the next two tests to have an average of 80 for all the tests?

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F3/9 It takes 880 drops of water to fill two teaspoons and 3 tablespoons. One tablespoon contains three teaspoons. How many drops of water does it take to fill one tablespoon?

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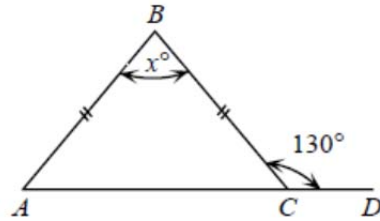
F3/10 At a school, there are 3 boys for every 4 girls. How many girls are at the school if there are 366 boys?

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F3/11 Sera's mid-term mark in Maths was 80. Her term end exam Maths mark was 90. In calculating her final mark, the mid-term mark was given a weight of 70% and the term end exam mark a weight of 30%. What was her final mark?

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F3/12 What is the value of  $x$  in the diagram?



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F3/13 Paula celebrated his 24<sup>th</sup> birthday on February 2, 2001. On that day, his age equaled the sum of the digits in the year in which he was born. In what year was Paula born?

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F3/14 An automobile with 5 tires (four tires and a spare) travelled 30 000 km. All five tires were used equally. How many kilometers wear did each tire receive?

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F3/15 Two people travel in opposite directions on a circular track whose length is 1km. Person A runs at 7 km per hour while person B walks at 2 km per hour. If they both start at the same point, how many times will they pass each other before they again meet at their original starting point?

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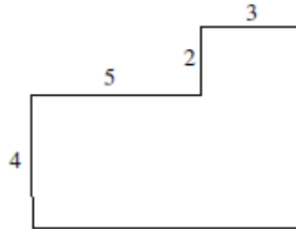
F3/16 Toothpicks are used to form squares in the pattern shown



If this pattern continues, how many toothpicks will be used to form 10 squares in a row?

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F3/17 Aliti's living room is as shown in the diagram, with all distances in meters and with all angles  $90^\circ$ . What is the area (in square meters) of her living room?



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F3/18 Farisha has 2007 marbles kept in three bags, A, B and C. Each bag contains the same number of marbles. If Farisha moves  $\frac{2}{3}$  of the marbles in bag A to bag C, what will be the ratio between the number of marbles in bag A and bag C?

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F3/19 You currently have \$100 and two magic wands A and B. Wand A increases the amount of money you have by 30% and wand B adds \$50 to the amount of money you have. You may use each wand exactly once, one after the other. What is the maximum amount of money you can get?

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F3/20 A store sells juice in two sizes : small and large. A large bottle costs three times as much as a small one. Shivam bought 10 small bottles and 6 large bottles. With the same amount of money, Taniela bought 24 bottles. How many little bottles did Taniela buy?

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### Tie Breaker

F3/21 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?

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F3/22 Kini has the same number of sisters as she has brothers, but her brother Peni has twice as many sisters as he has brothers. If their family has fewer than 10 children, how many children are there?

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