**Fiji Mathematics Team Competition – Finals**

**YEAR 8 – 2017**

Y8/1 The sale ad read: “Buy three tires at the regular price and get the fourth tire for $3.” Jack paid $240 for the set of four tires at the sale. What was the regular price of one tire?

Y8/2 The mean (average) of a set of six numbers is 10. If the number 25 is removed from the set, what is the mean of the remaining numbers?

Y8/3 A square has an area of 25. A rectangle has the same width as the square. The length of the rectangle is double its width. What is the area of the rectangle?

Y8/4 The average of the ages of the mother, the father, and their three children is 21, while the average of the children is 11. How old is the father if he is 4 years older than the mother?

Y8/5 If a small circle’s diameter is a large circle’s radius, what is the small circle’s area in the percentage of the large circle’s area?

Y8/6 A 5 × 5 grid is divided into 25 small 1 × 1 squares. Each small square has a frog inside. After a whistle, each frog jumps to an adjacent square. What is the least possible number of squares with at least two frogs in it?

Y8/7 A two-digit number is called “good” if . How many good numbers are there?

Y8/8 There are five sheds located on a farm. The distance between shed A and B is 2 miles, between B and C is 1.5 miles, between C and D is 8 miles and between D and E is 3.5 miles. Finally shed A is 1 mile from shed E. How far is shed B from shed E?

Y8/9 I walk at 4 kilometers per hour and run at 6 kilometers per hour. I find I can save 3 minutes and 45 seconds by running instead of walking to school in the morning. How far do I live from school?

Y8/10 A man walked a total of 65 kilometers for 5 days. Every day he walked 4 kilometers less than the day before. How many kilometers did the man walk the last day?

Y8/11 How many two-digit odd numbers can be made using the digits 0, 1, 2, 3, 4, 5, 7, 8 if each digit can be used at most once in a number?

Y8/12 Ahmed chooses two different items for a snack. His choices are an apple, an orange, a banana, and a granola bar. How many different pairs of snacks could he choose?

Y8/13 Lara ate  of a pie and Ryan ate  of the same pie. The next day Cassie ate  of the pie that was left. What fraction of the original pie was not eaten?

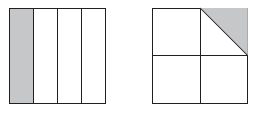
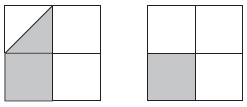
Y8/14 The students in a classroom noticed that if they lineup 2 in a row or three in a row, there is one student left alone, but if they lineup 5 in a row, there isn’t anybody left alone. How many students are in this class?

Y8/15 Janet picked a number, added 7 to the number, multiplied the sum by 2, and then subtracted 4. If the final result was 28, what number did Janet pick?

Y8/16 Tobias downloads apps. Each app costs $2.00 plus 10% tax. He spends $52.80 in total on these apps. What is the value of?

Y8/17 Find a minimum number of direct flights connecting 50 cities such that a trip between every pair of cities includes at most one stopover.

Y8/18 Each of the following four large congruent squares is sub divided into combinations of congruent triangles or rectangles and is partially shaded. What percent of the total area is partially shaded?



Y8/19 Amy, Bob and Celine deliver papers in a small town. Amy delivers twice as many papers as Bob, and Carrie delivers 12 papers less than Amy. If Amy, Bob, and Celine deliver 128 papers in total, how many papers does Carrie deliver?

Y8/20 Mary is 24 years old. Mary is twice as old as Ann when Mary was as old as Ann now. How old is Ann now?

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Tie breaker

Y8/21 One soccer ball and one soccer shirt together cost $100. Two soccer balls and three soccer shirts together cost $262. What is the cost of one soccer ball?

Y8/22 If 2 − 3 = 10, what is the value of 4?