The University of the West Indies
The 2015 Junior Mathematics Olympiad

FIRST ROUND EXAMINATION
TUESDAY, FEBRUARY 24, 2015

This examination consists of fifteen multiple-choice questions. For each one, decide whether (a), (b), (c), (d), or (e) is the best response. Then fill in the circle for that letter in the answer book provided. (Use the page marked "Multiple Choice Page".) Each question is worth 5 marks.

1) What is the value of $4 \times 4 + 4 + 4 + 4 + 4 + 4 \times 4$?

    (a) 32   (b) 44   (c) 48   (d) 56   (e) 144

2) Felix the cat said, "The length of my tail is 12 cm plus half the length of my tail." How long is Felix's tail?

    (a) 18 cm   (b) 24 cm   (c) 12 cm   (d) 9 cm   (e) 6 cm

3) John has a chocolate bar consisting of square pieces 1 cm in size. He has already eaten some of the corner pieces (see the figure on the right). How many pieces does John have left?

    (a) 66   (b) 64   (c) 62

    (d) 60   (e) 58

4) For five days, Kaysia helped her mother pick berries. On the first day, she ate most of the berries and gave her mother only one litre of berries. Each day after that, she gave her mother twice as many litres of berries as she did the day before. How many litres of berries did Kaysia give her mother in five days?

    (a) 31   (b) 5   (c) 21   (d) 9   (e) 16

5) Ann, Barb, Carol, Dora, and Ellen live in the same two-story building. Two of them live on the first floor and three live on the second floor. Dora lives on a different floor than Carol and Ellen do. Barb lives on a different floor than Ann and Carol do. Who lives on the first floor?

    (a) Carol and Ellen   (b) Ann and Ellen   (c) Ann and Dora

    (d) Ann and Carol   (e) Barb and Dora

6) Each of Mrs. Rabbit's eleven children has eleven children. Each of her children's children also has eleven children. How many great-grandchildren does Mrs. Rabbit have?

    (a) 111   (b) 121   (c) 11211   (d) 1331   (e) 12321

7) Mike wrote down a three-digit number and a two-digit number. The difference of these numbers is 989. What is their sum?

    (a) 1001   (b) 1010   (c) 2005   (d) 1000   (e) 1009

8) Four crows, Heckle, Jeckle, Meckle, and Peckle, are sitting an a fence. Heckle sits exactly between Jeckle and Meckle. The distance between Jeckle and Heckle is exactly the same as the distance between Meckle and Peckle. Heckle sits 4 m from Peckle. How far is Jeckle sitting from Peckle?

   (a) 5 m   (b) 6 m   (c) 7 m   (d) 8 m   (e) 9 m

9) Four years after Jumbo the elephant was born, Gumbo was born. Four years later, Mumbo was born. Now, Jumbo is 5 times as old as Mumbo. How old is Mumbo?

   (a) 10   (b) 8   (c) 6   (d) 4   (e) 2

10) Maria has 201 Mexican coins. One-third of them are 1-peso coins and an equal number are 2-peso coins. The rest of them are 5-peso coins. What is the value of Maria's coins?

   (a) 536 pesos   (b) 201 pesos   (c) 516 pesos   (d) 1020 pesos   (e) 2001 pesos

11) A certain bar code consists of 17 black bars (see the figure to the right). A white bar is placed between any two black ones. The first bar and the last bar are black. There are two kinds of black bars: wide and narrow. The number of white bars is 3 more than the number of wide black bars. How many narrow black bars are in the bar code?

   (a) 5   (b) 4   (c) 3   (d) 2   (e) 1

12) A machine can print 100 forms in 1 minute. How long will it take for the machine to print 1 million forms?

   (a) 166 hr, 40 min (b) 160 hr, 40 min (c) 120 hr, 40 min (d) 18 hr, 10 min (e) 120 hr

13) How many two-digit numbers are divisible both by 2 and by 7?

   (a) 8   (b) 7   (c) 6   (d) 5   (e) 4

14) The figure below shows the plan of a city. There are 4 bus routes in the city. Bus B1 follows the route *C-D-E-F-G-H-C*, which is 17 km long. Bus B2 follows the route *A-B-C-F-G-H-A*, which is 12 km long. Bus B3 follows the route *A-B-C-D-E-F-G-H-A*. This is 20 km long. Bus B4 follows the route *C-F-G-H-C*. How long is its route?

   (a) 5 km   (b) 8 km   (c) 9 km   (d) 12 km   (e) 15 km

15) Two large containers had 40 ℓ of water between them. Susan poured 5 ℓ of water from the first container into the second one. Then Darien poured enough water from the second container into the first to double the amount of water in it. At that point, both containers held the same amount of water. How much water was in the first container at the beginning?

   (a) 20 ℓ   (b) 35 ℓ   (c) 15 ℓ   (d) 25 ℓ   (e) 10 ℓ