The University of the West Indies

The 2019 Junior Mathematical Olympiad

First Round Examination, Grade 4

Thursday, February 21, 2019

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 on the answer sheet provided. Each question is worth 5 marks.

1) What is the value of $\dfrac{10+20+30+40}{10}$?

(a) 90 (b) 91 (c) 10 (d) 64 (e) 9

2) What is the value of $\dfrac{6-5+4-3+2-1}{5-4+3-2+1}$?

(a) 1 (b) 2 (c) 5 (d) 9 (e) 10

3) One of the digits in the number .12345 is changed to a 9 to give a new number. Which digit should be changed to give the largest possible number?

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

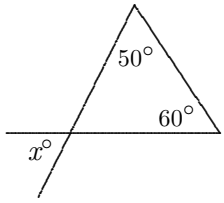
4) Expressed to the nearest thousand, what is the value of $23{,}456 + 15{,}734 - 3{,}894$?

(a) 34,000 (b) 34,300 (c) 35,000 (d) 35,300 (e) 36,000

5) In the figure on the right, what is the value of x?

(a) 50 (b) 55 (c) 60 (d) 65

(e) 70



6) Sherice wants to insert the digit 3 into the number 2019 to make a five-digit number. Where should she place this 3 in order to make the five-digit number as small as possible?

(a) Before the 2 (c) Between the 0 and the 1 (e) After the 9

(b) Between the 2 and the 0 (d) Between the 1 and the 9

7) 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

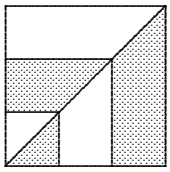
(d) Barb and Dora (e) Ann and Carol

8) Each day, Maria must work 8 hours. This does not include the 45 minutes she takes for lunch. If she begins working at 7:25 am and takes her lunch break at noon, when will her working day end?

(a) 3:40 pm (b) 3:55 pm (c) 4:10 pm (d) 4:25 pm (e) 4:40 pm

9) What fraction of the square is shaded?

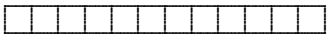
(a) $\frac{1}{3}$ (b) $\frac{2}{5}$ (c) $\frac{5}{12}$ (d) $\frac{3}{7}$ (e) $\frac{1}{2}$



10) Peter wanted to buy four servings of ice cream but he was \$80 short. Instead, he bought three servings and had \$30 left. How much does one serving of ice cream cost?

(a) \$70 (b) \$110 (c) \$90 (d) \$100 (e) \$80

11) If $\frac{1}{2}$ of $\frac{2}{3}$ of the twelve small squares below are removed, how many will remain?



(a) 2 (b) 3 (c) 4 (d) 8 (e) 9

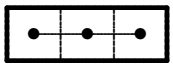
12) Four years after Jumbo the elephant was born, Gumbo was born. Four years later, Mumbo was born. Now, Jumbo is 5 times as old as Mumbo. How old is Mumbo?

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

13) Four sticks, each 14 cm long, were placed in the way shown in the picture below. The spaces between the sticks are equal in length. What is the length of each space?

(a) 1 cm (b) 2 cm (c) 3 cm (d) 5 cm (e) 8 cm

14) Timothy placed three small squares side by side to form a rectangle. Then he connected their centres with a line. If each small square had a perimeter of 24 cm, how long was his line?



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

15) Together, Adam, Brianna, and Celine earned \$2800 during their vacation. Adam earned twice as much as Brianna and four times as much as Celine. How much money did Celine earn?

(a) \$700 (b) \$400 (c) \$600 (d) \$300 (e) \$500