



International Junior Math Olympiad

GRADE 2

Time Allowed: 90 minutes

Name:

Country:

INSTRUCTIONS

1. Please DO NOT OPEN the contest booklet until told to do so.
2. There are 30 questions.
Section A: Questions 1 to 10 score 2 points each, no points are deducted for unanswered question and 1 point is deducted for wrong answer.
Section B: Questions 11 to 20 score 3 points each, no points are deducted for unanswered question and 1 point is deducted for wrong answer.
Section C: Questions 21 to 30 score 5 points each, no points are deducted for unanswered or wrong answer.
3. Shade your answers neatly using a 2B pencil in the Answer Entry Sheet.
4. No one may help any student in any way during the contest.
5. No electronic devices capable of storing and displaying visual information is allowed during the exam. Strictly NO CALCULATORS are allowed into the exam.
6. No exam papers and written notes can be taken out by any contestant.

SECTION A – 10 questions**QUESTION 1**

What is $2017 + 2 + 0 + 1 + 7$ equal to?

- A. 2017
- B. 2019
- C. 2024
- D. 2027
- E. None of the above

QUESTION 2

It is given that $a \& b = a \times b + a + b$. For example, $1 \& 3 = 1 \times 3 + 1 + 3 = 7$.
What is the value of $(2 \& 3) \& 1$?

- A. 21
- B. 22
- C. 23
- D. 24
- E. None of the above

QUESTION 3

What is the missing number in the sequence 1, 2, 4, _____, 11, 16?

- A. 5
- B. 6
- C. 7
- D. 8
- E. 9

QUESTION 4

A number has nine ones, six tens and eight hundreds. What is the number?

- A. 869
- B. 698
- C. 968
- D. 986
- E. 896

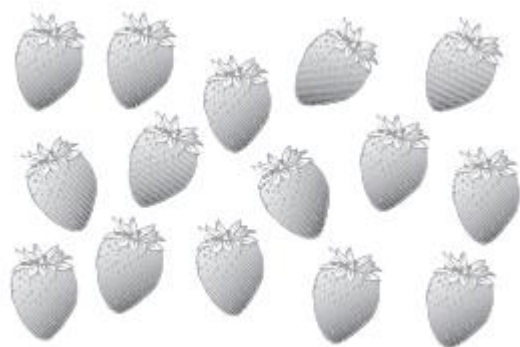
QUESTION 5

David reads two pages every five minutes. How many pages did David read after twenty-five minutes?

- A. 9
- B. 10
- C. 11
- D. 12
- E. None of the above

QUESTION 6

Kayla has strawberries as shown in the picture below. She will give four strawberries to each of her three friends. How many strawberries will be left for Kayla?



- A. 1
- B. 2
- C. 3
- D. 4
- E. None of the above

QUESTION 7

What is the sum of the first ten whole numbers greater than 0?

- A. 10
- B. 45
- C. 55
- D. 110
- E. None of the above

QUESTION 8

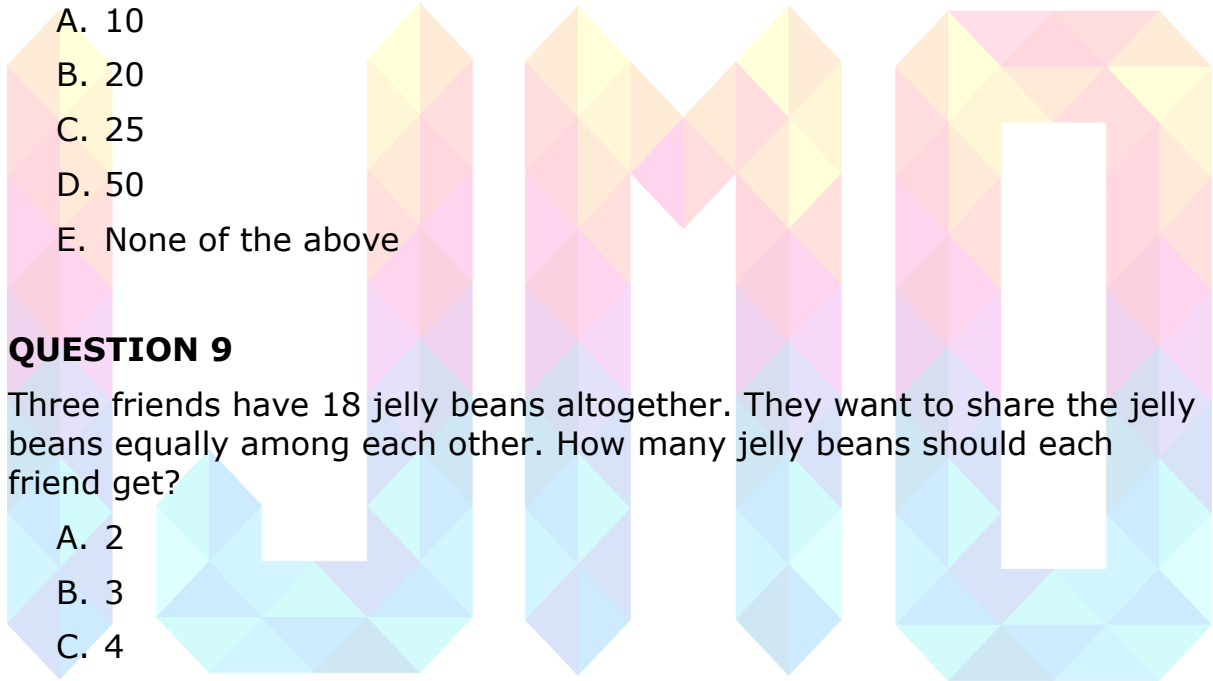
Lilia scored 15 points fewer than Bob, who scored 35 points. Carol scored half as many points as Lilia. How many points did Carol score?

- A. 10
- B. 20
- C. 25
- D. 50
- E. None of the above

QUESTION 9

Three friends have 18 jelly beans altogether. They want to share the jelly beans equally among each other. How many jelly beans should each friend get?

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6



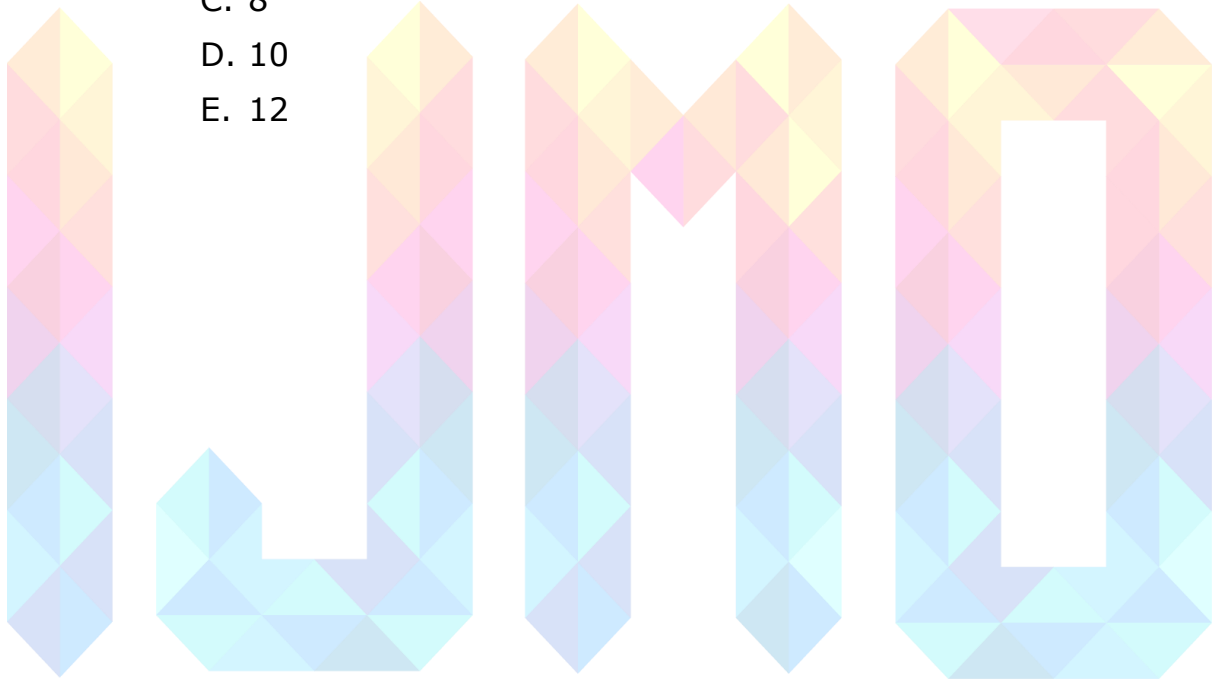
QUESTION 10

This comb is about 12 buttons long. How many toothpicks long is the comb?

(Toothpick is shown in the picture below)



- A. 4
- B. 6
- C. 8
- D. 10
- E. 12



Section B – 10 questions

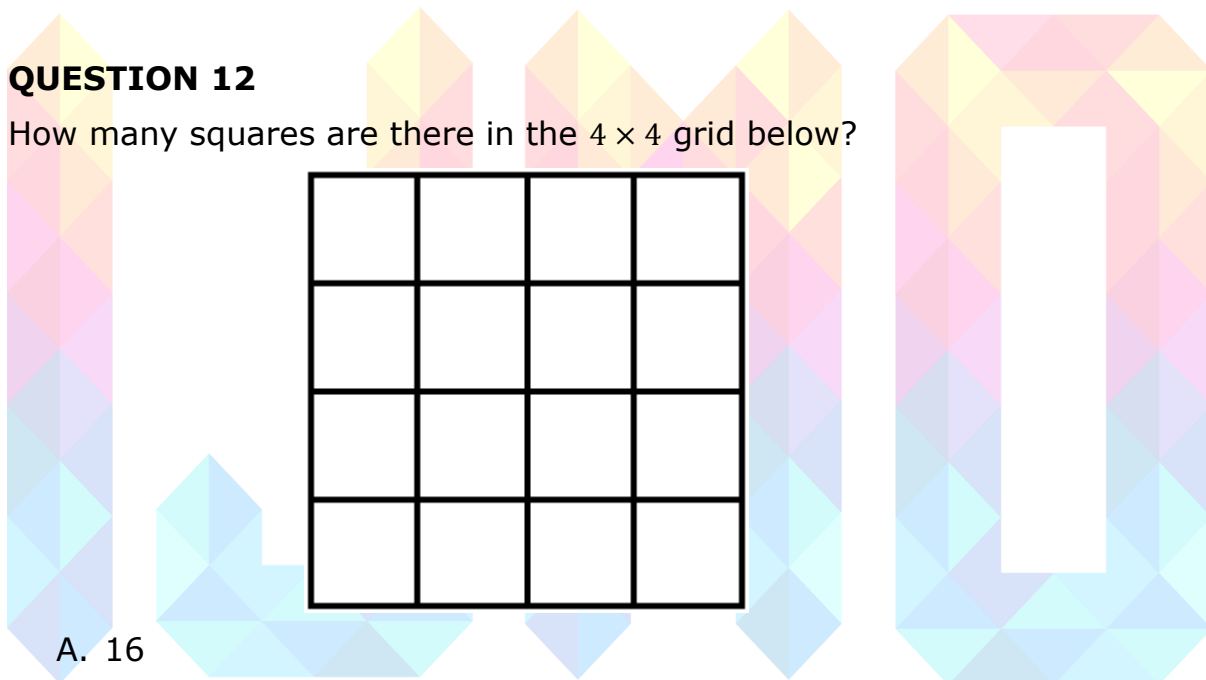
QUESTION 11

Jed has 8 coins. His sister, Hailey, has twice as many coins as Jed. How many coins do they have altogether?

- A. 16
- B. 24
- C. 10
- D. 14
- E. 22

QUESTION 12

How many squares are there in the 4×4 grid below?



- A. 16
- B. 25
- C. 29
- D. 30
- E. None of the above

QUESTION 13

A bucket contains 1 red, 1 yellow, 1 blue and 1 white flower. Maja, the bee, visits every flower in the bucket only once. She starts from the red flower, and she does not fly directly from the blue flower to the yellow flower. In how many ways can Maja visit all the flowers exactly once?

- A. 3
- B. 4
- C. 6
- D. 24
- E. None of the above

QUESTION 14

A "leap year" is a year which has 366 days including February 29 as an additional day. Any year that is divisible by 4 is a leap year, but a year that is divisible by 100 is a leap year only if it is also divisible by 400. How many leap years are there from 2000 to 2017?

- A. 3
- B. 4
- C. 5
- D. 6
- E. None of the above

QUESTION 15

The seats on a children's merry-go-round are labelled 1, 2, 3, On the merry-go-round, Asad was sitting on seat number 2, exactly opposite Shaden, who was sitting on seat number 6. How many seats are there on the merry-go-round?

- A. 6
- B. 7
- C. 8
- D. 10
- E. None of the above

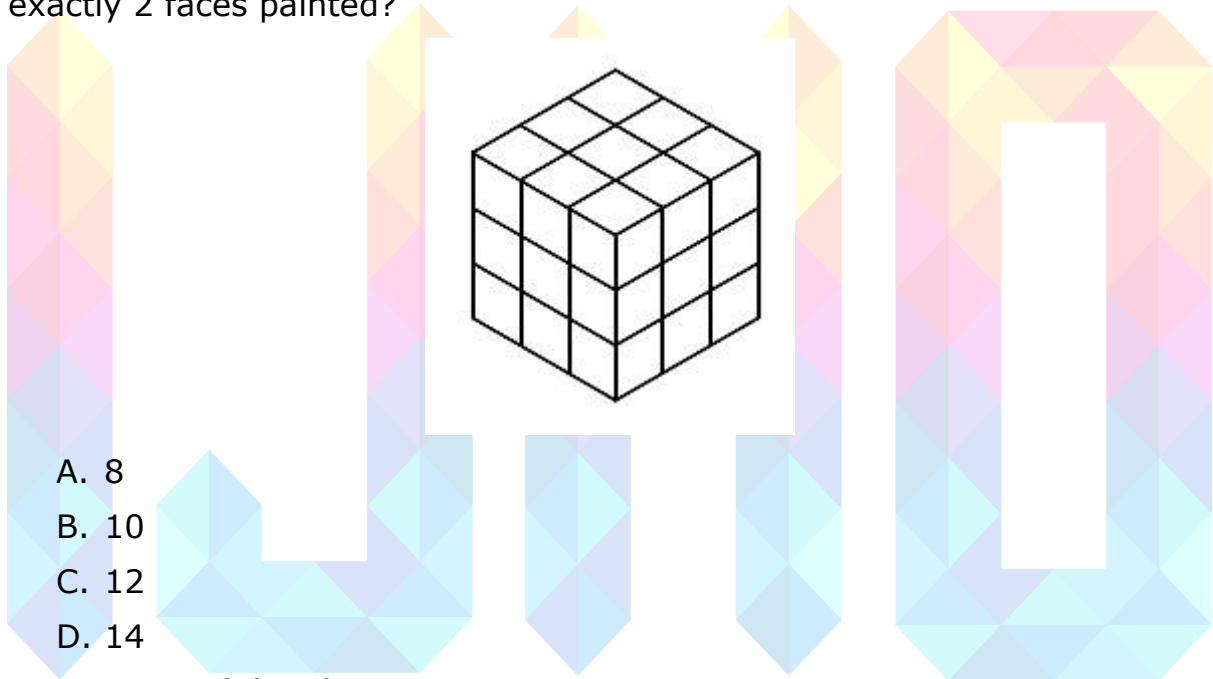
QUESTION 16

How many times does the digit "2" appear from 1 to 50?

- A. 12
- B. 13
- C. 14
- D. 15
- E. None of the above

QUESTION 17

A cube with side length of 3 cm is painted grey and cut into smaller cubes each with side length of 1 cm. How many of the smaller cubes have exactly 2 faces painted?



- A. 8
- B. 10
- C. 12
- D. 14
- E. None of the above

QUESTION 18

A restaurant offers 3 courses: entree costs \$4, main course costs \$9 and dessert costs \$5. The "combo", which is entree + main course + dessert, costs \$15. How much does a person save if he/she orders the combo instead of the three separate courses?

- A. 2 \$
- B. 3 \$
- C. 4 \$
- D. 5 \$
- E. None of the above

QUESTION 19

Cheryl collects photos of famous singers. The number of newly collected photos in each year is equal to the sum of the number of photos collected in the previous two years. She collected 60 photos in 2015 and 96 photos in 2016. How many photos did she collect in 2013?

- A. 12
- B. 24
- C. 36
- D. 156
- E. None of the above

QUESTION 20

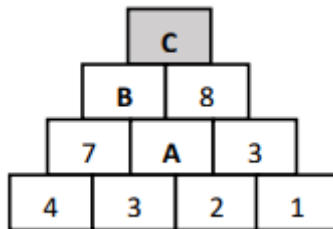
Jessica has a lot of apps on her phone. The number of apps she has is divisible by 5. If she downloaded 10 more apps, she would still have less than 50 apps. What is the maximum original number of apps Jessica could have?

- A. 45
- B. 40
- C. 35
- D. 30
- E. 49

Section C – 10 questions

QUESTION 21

Study the picture carefully. What number should be placed in the shaded box?



QUESTION 22

A minute ago, there were 20 more people in room A than in room B. Six people from room A moved to room B. How many more people are there in room A than in room B now?

QUESTION 23

The product of two numbers is 24 and their sum is 11. What is their difference?

QUESTION 24

Oliver brought 14 cookies and Annie brought 10 cookies. Don and Jessa did not bring any cookies. They all got together and shared the cookies equally among themselves. How many cookies does each kid get?

QUESTION 25

What number is covered by the star?

$$\text{😊} + \text{♥} = 3$$

$$\text{♥} + \text{♥} = 4$$

$$\text{♥} + \text{♦} = 5$$

$$\text{😊} + \text{♦} = \text{★}$$

QUESTION 26

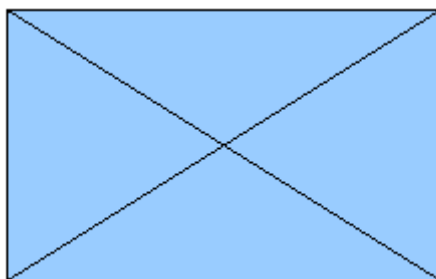
In a zoo, one lion can balance out 5 monkeys. One leopard can balance out 4 dogs. One leopard and 2 dogs can balance out 3 monkeys. How many dogs can balance out one lion?

QUESTION 27

The sum of three consecutive whole numbers (3 numbers next to one another) is 30. What is their product?

QUESTION 28

How many triangles are there in the drawing below?

**QUESTION 29**

In a class, 14 students collect stamps, 16 students collect postcards, 5 students collect both and 4 students collect none of them. How many students are there in this class?

QUESTION 30

William has two kinds of square tiles. Each small tile is 5 cm long, and each big tile is 7 cm long. He arranged all the small tiles in one row, leaving no gaps in between. He also arranged all the big tiles in another row, leaving no gaps in between. Each row covers 385 cm long surface. How many more small tiles than big tiles did William use?

END OF PAPER

1	D
2	C
3	C
4	A
5	B
6	C
7	C
8	A
9	E
10	A
11	B
12	D
13	B
14	C
15	C
16	D
17	C
18	B
19	B
20	C
21	0020
22	0008
23	0005
24	0006
25	0004
26	0010
27	0990
28	0008
29	0029
30	0022

