



International Junior Math Olympiad

GRADE 3

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**

Today, Ray added his age and his brother's age and he got 11. What will be the sum of their ages after one year?

- A. 12
- B. 13
- C. 14
- D. 15
- E. 22

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

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 5

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 6

For three days, Kitty was catching mice. Each day Kitty caught 2 more mice than the previous day. How many mice did Kitty catch in these three days?

- A. 14
- B. 13
- C. 8
- D. 10
- E. 9

Question 7

Jed has 8 coins. His sister 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 8

A bucket contains 1 red, 1 yellow, 1 blue and 1 white flower. Maja, the bee, visit 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

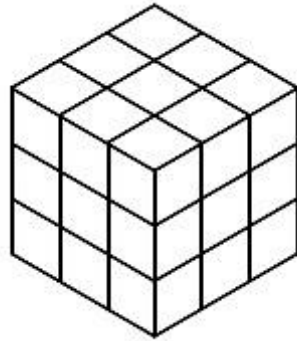
Question 9

How many times does the digit "3" appear from 1 to 70?

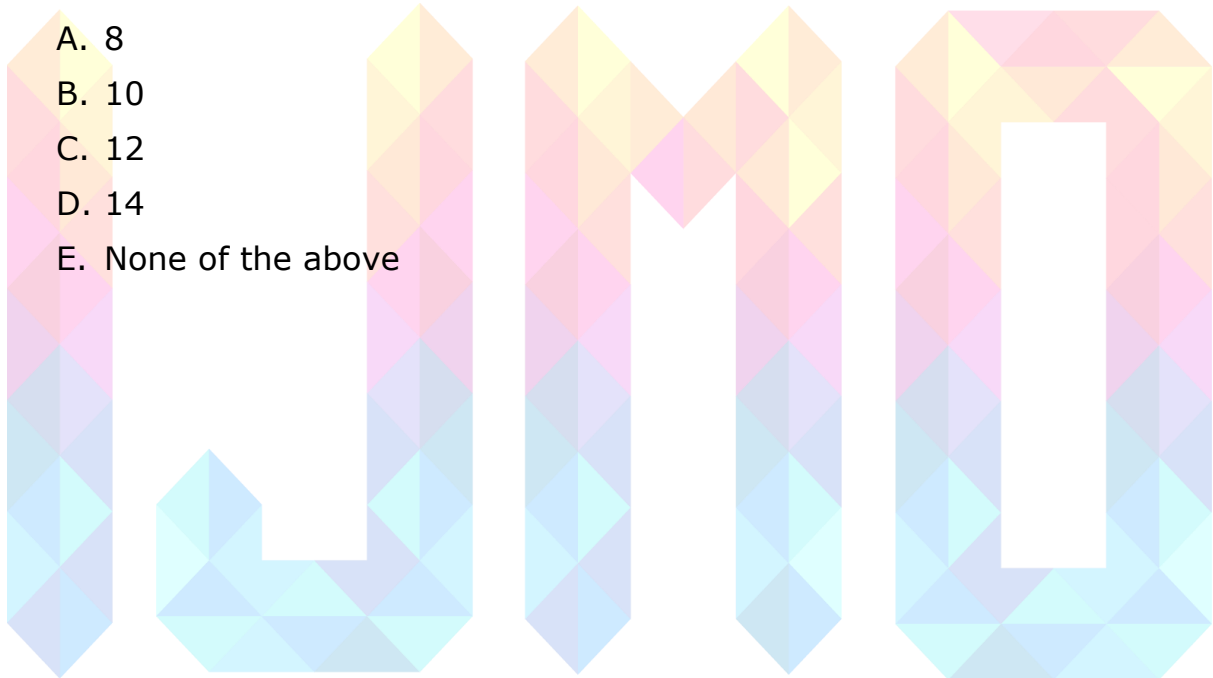
- A. 12
- B. 13
- C. 14
- D. 15
- E. None of the above

Question 10

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 3 faces painted?



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



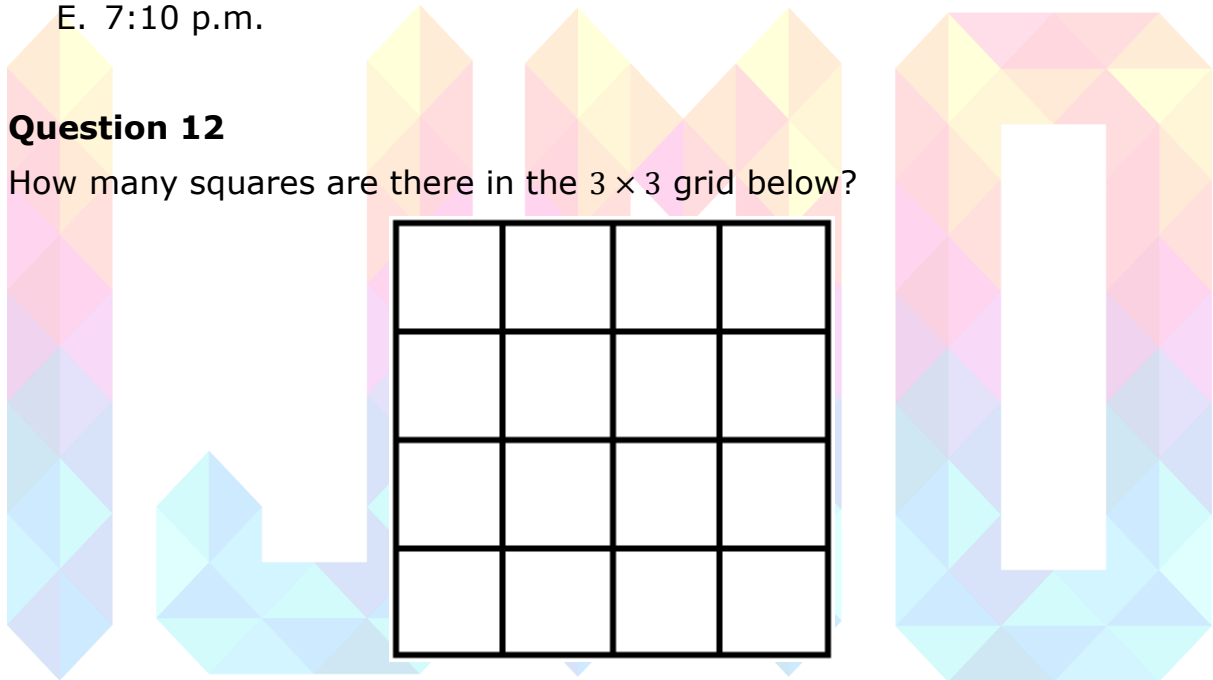
Section B – 10 questions**Question 11**

It is now 6:30 p.m. Ten minutes ago, Lisa's mother asked Lisa to have dinner but she was in the middle of her homework and would come to dinner in 20 minutes. At what time will she come to dinner?

- A. 7:00 p.m.
- B. 6:50 p.m.
- C. 6:40 p.m.
- D. 6:30 p.m.
- E. 7:10 p.m.

Question 12

How many squares are there in the 3×3 grid below?



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

Question 13

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

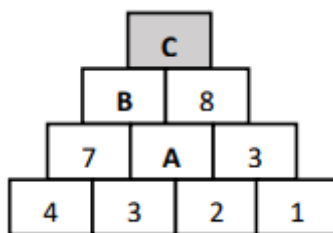
Question 14

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 7. How many seats are there on the merry-go-round?

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

Question 15

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



- A. 16
- B. 18
- C. 20
- D. 21
- E. 22

Question 16

Ronny is facing Northeast. What direction will he be facing if he turns 90° clockwise?

- A. Southwest
- B. Northwest
- C. Southeast
- D. Northeast
- E. None of the above

Question 17

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 18

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

- A. 8
- B. 3
- C. 6
- D. 14
- E. 26

Question 19

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

Question 20

What number is covered by the star?

$\text{😊} + \text{♥} = 3$
 $\text{♥} + \text{♥} = 4$

$\text{♥} + \text{♦} = 5$
 $\text{😊} + \text{♦} = \text{★}$

- A. 5
- B. 4
- C. 3
- D. 2
- E. 1

Section C – 10 questions**Question 21**

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 she collected in 2013?

Question 22

A math competition paper consists of 20 questions. Each question is worth 4 or 5 points. The total maximum number of points possible is 84. Jack was able to solve all the 4-point questions and half of the 5-point questions. What is Jack's score?

Question 23

The product of two numbers is 100 and their sum is 29. What is their difference?

Question 24

Oliver brought 36 cookies and Annie brought 20 cookies. Don and Jessa did not bring any cookies. They all got together and shared the cookies equally among themselves. How many cookies did each kid get?

Question 25

Angelica added all the whole numbers from 1 to 20. Benjamin added all the whole numbers from 11 to 30. Chris subtracted Angelica's answer from Benjamin's. What is the number Chris got?

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 five consecutive whole numbers (5 numbers next to one another) is 20. What is their product?

Question 28

When Tom weighed an apple and a banana, the scale showed 230 grams. When he replaced the apple with an orange, the scale showed 370 grams. When Tom put the apple back, the scale showed 540 grams. What is the combined weight of the apple and orange?

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 the class?

Question 30

Three sisters, Caitlin, Beatrice and Ashley share an apartment. They decided to combine their money to buy a TV. Caitlin contributed \$425. Beatrice contributed \$245 more than Caitlin. Ashley contributed \$150 less than Beatrice. How much does the TV cost?



END OF PAPER

1	B
2	C
3	C
4	A
5	E
6	E
7	B
8	B
9	E
10	A
11	C
12	D
13	C
14	D
15	C
16	C
17	B
18	A
19	C
20	B
21	0024
22	0074
23	0021
24	0014
25	0200
26	0010
27	0720
28	0480
29	0029
30	1615

