FAMOUS STUDENTS PLATFORM

2023
FSP MATHEMATICS CONTEST

FSP

Vibrant Youngsters Competitions

QUESTION BOOKLET
GRADE 7 & 8
TIME ALLOWED : 90 MINS
MAXIMUM MARKS : 90

FSP

VIBRANT YOUNGSTERS COMPETITIONS

INSTRUCTIONS

1) Don't start attempting the paper until instructed by the invigilator.

2) instructions from the examination invigilator must be carried out promptly.

3) Carefully recheck your name, father name, school name, address etc at the bubble sheet / answer sheet.

4) Record all answers on the bubble sheet only. select best answer from the four given options and mark only one option in each question.

5) Use blue / black ink to fill up the circles for your answers on the bubble sheet use of lead pencil is not allowed.

6) Use of any helping material including cell phones and electronic devices is strictly prohibited.

7) Every correct answer earns three points. there would be negative marking. one point would be deducted for every incorrect answer.

8) Candidates may not leave the examination room unescorted for any reason, and this includes using the washroom.

9) No materials or electronic devices shall be brought in to the room.

10) There are five categories of the contest as under:

   A) vibrant youngsters (Grade 1 & 2)

   B) vibrant youngsters (Grade 5 & 6)

   C) vibrant youngsters (Grade 7 & 8)

   D) vibrant youngsters (Grade 9 & 10 / O-levels)

11) Only registered students can participate in the contest.

12) No candidate shall take out of the hall any answer book(s) or part of an answer book, whether used or unused, or other supplied material.

13) If a participant does not understand a word or phrase on the exam paper, neither examiner nor invigilator is permitted to answer.

14) for information about upcoming contests or providing valuable feedback,

   please visit www.fspcompetitions.org

15) Any academic misconduct or malpractice must be reported to fsp vibrant youngsters at info@fspcompetitions.org

QUESTION NO : 01

Here are three bottles.

I 2.5 L   II 600mL III 1 L

What is the total capacity of the three bottles in millilitres ?

(A)   950
(B)   1625
(C)   1850
(D)   4100

QUESTION NO : 02
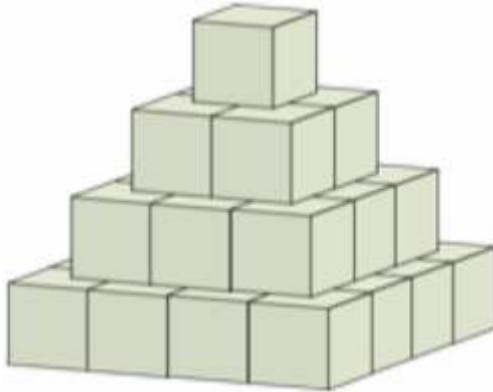
What number is missing from the pattern?
3, 4, 6, 9, ?, 18, 24, 31

(A)   10
(B)   12
(C)   13
(D)   15

QUESTION NO : 03

Each layer in this stack of boxes is a square prism as shown.

How many boxes are in the stack?

(A)   10
(B)   19
(C)   25
(D)   30

QUESTION NO : 04

Umaira walks to school each day. She walks 2 kilometres from her house to the school gate. She then walks 23 metres from the school gate to her classroom.

How far does she walk to get from her house to her classroom?

(A)   25 m
(B)   43 m
(C)   223 m
(D)   2023 m

QUESTION NO : 05

This map shows the angles between some roads in a town.Two of the large roads head due north.

NOT TO SCALE

What is the value of x?

(A)   20
(B)   70
(C)   110
(D)   160

QUESTION NO : 06

Fatima bought a model of Minar-e-Pakistan that is one-third taller than her height.

Fatima is 156 cm tall.

What is the height of her model of Minar-e-Pakistan?

(A)   208 cm
(B)   189 cm
(C)   104 cm
(D)   52 cm

QUESTION NO : 07

In this grid the numbers in each row and each column are part of an incomplete pattern.

2	4	6	8
5	7	9	11
8		12	
11	13		?

What number should be in the **?** square?

(A)   12
(B)   14
(C)   15
(D)   17

QUESTION NO : 08

Here is a map of a school.

KEY
Paths
Fields
Buildings

200 metres

N
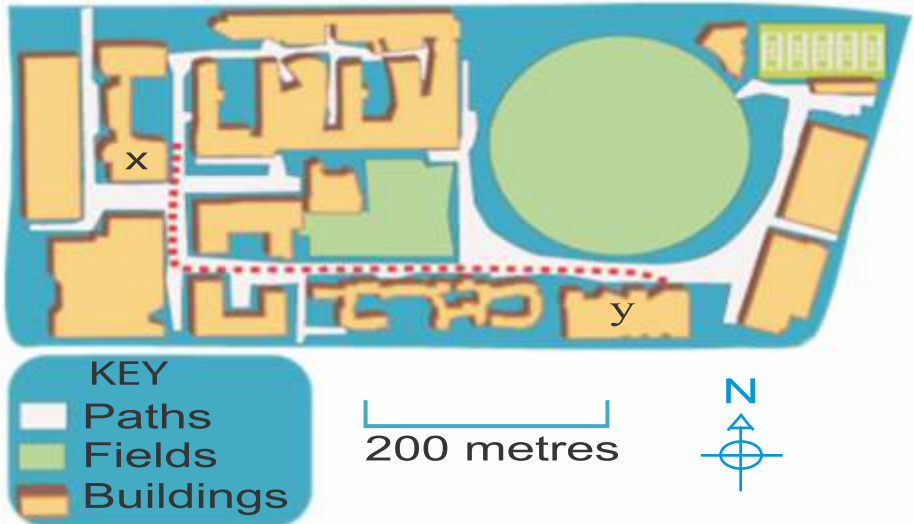
Hashim walks from building X to building Y along the route shown.

About how far does Hashim walk?

(A)   5.5 m
(B)   11 m
(C)   110 m
(D)   550 m

QUESTION NO : 09

Which of these four points has the coordinates (2, –3)?
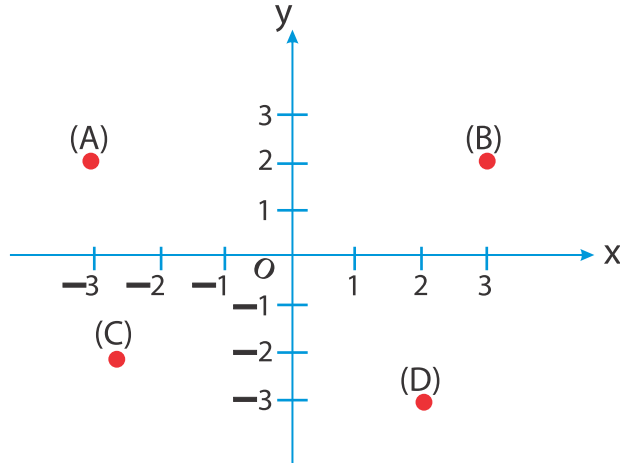
(A)   A
(B)   B
(C)   C
(D)   D

QUESTION NO :10

How many of these shapes are pentagons?
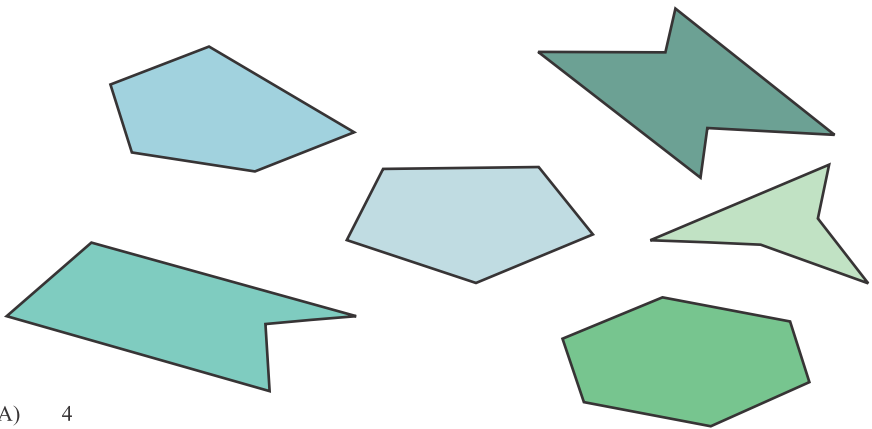
(A)   4
(B)   3
(C)   2
(D)   1

QUESTION NO : 11

The table shows the maximum temperature in five cities for one day.

Athens	8 °C
Cairo	20 °C
Dublin	– 4 °C
Lahore	21 °C
Moscow	– 12 °C

Which city's maximum temperature was 12 °C colder than Athens?

(A)   Cairo
(B)   Dublin
(C)   Lahore
(D)   Moscow

QUESTION NO : 12

All of these numbers can be divided by the same 'magic' number without leaving a remainder.

182   273   286   429

What is the 'magic' number?

(A)   3
(B)   7
(C)   11
(D)   13

QUESTION NO : 13

Which of these numbers is closest to 10?

(A)   10.4
(B)   10.31
(C)   9.7
(D)   9.59

QUESTION NO : 14

The seed of this mango is 20% of its total mass.

The mass of the mango is 300 g.

What is the mass of the seed?

(A)   15 g.
(B)   30 g.
(C)   60 g.
(D)   280 g.

QUESTION NO : 15

Gohar wrote down an eight-digit phone number. Later one digit got smudged.
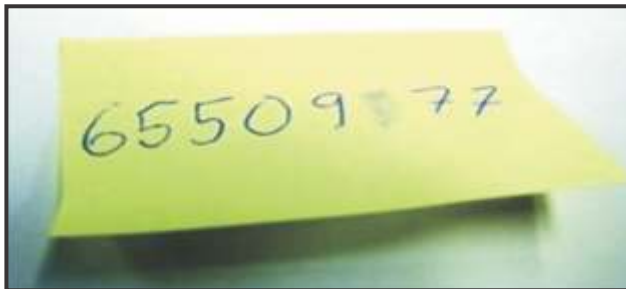
Gohar decided to guess the number.

What was Gohar's chance of guessing the number correctly on his first try?

(A)   1 chance in 4
(B)   1 chance in 8
(C)   1 chance in 10
(D)   1 chance in 100

QUESTION NO : 16

This toy cat has a mass of 41.5 grams.

What is the mass of this cat in kilograms?

(A)   0.00415
(B)   0.0415
(C)   0.415
(D)   4.15

QUESTION NO : 17

Julie has a piece of wood that is a rectangular prism 4 cm × 4 cm × 3 cm.
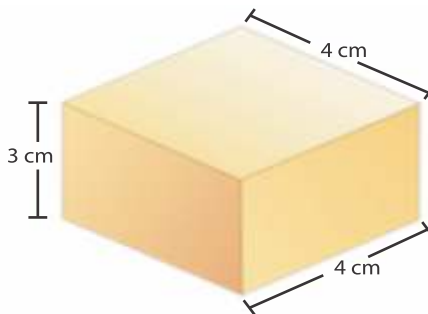
She cuts the wood into small blocks, each 2 cm × 1 cm × 4 cm.

How many small blocks can Julie cut from the large piece of wood?

(A)   4
(B)   6
(C)   8
(D)   12

QUESTION NO : 18

These are the Personal Identification Numbers (PINs) four people use with their credit cards.

Abid 4149
Javaid 2848
Humza 5397
Laeeque 3095

Whose PIN is made up of digits that are all square numbers?

(A)   Abid's
(B)   Javaid's
(C)   Humza's
(D)   Laeeque's

QUESTION NO : 19

The diagram shows a table top which has been covered in square tiles. Each tile has 2 cm sides.

0.5 m

1.5 m
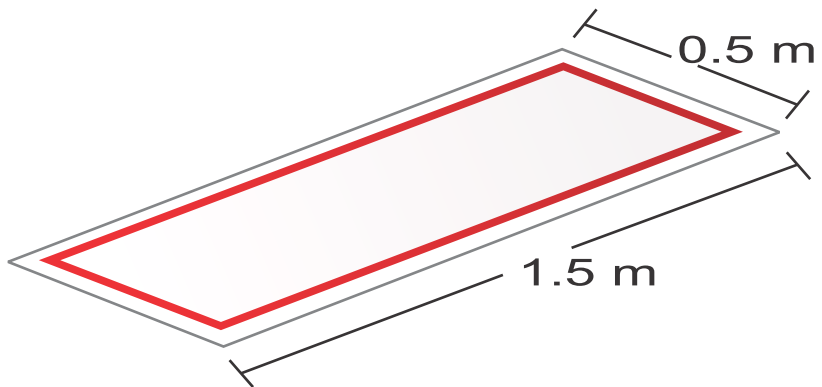
NOT TO SCALE

Most of the tiles are white except for a rectangular strip of red tiles 4 cm in from the edges.

How many red tiles have been used to tile the table top?

(A)   180
(B)   184
(C)   368
(D)   396

QUESTION NO : 20

This diagram shows three circles, each with a radius of 6 cm.
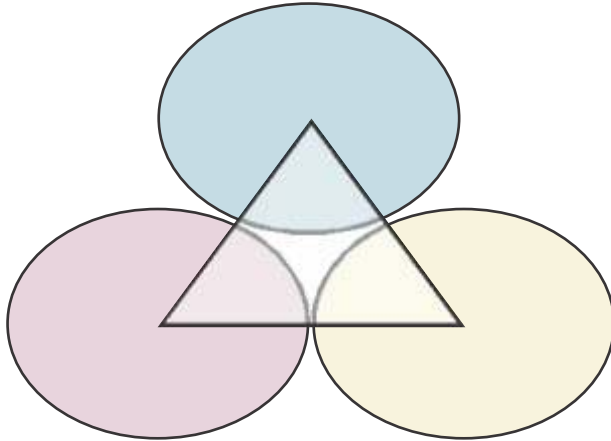
Each vertex of the triangle is at the centre of a circle.

What is the perimeter of the triangle?

(A)	12 cm	(B)	18 cm
(C)	36 cm	(D)	72 cm

QUESTION NO : 21

How many litres in 4.5 millilitres?

(A)	0.00045	(B)	0.0045
(C)	0.045	(D)	0.45

QUESTION NO : 22

Students in three different groups chose to play either football or cricket.

The graph shows the sport they chose
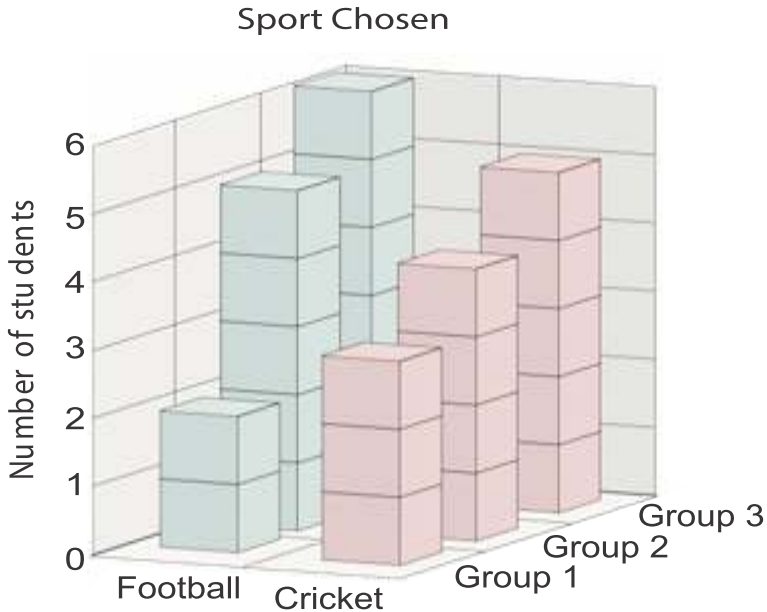
Which of these sets has the greatest number of students?

(A)   students in Group 2   (B)   students in Group 3

(C)   students who chose cricket   (D)   students who chose football

QUESTION NO : 23

Javaid is x years old. Saira is 5 years older than Javaid. Beenish is 3 years older than Saira. The total of the ages of Javaid, Saira and Beenish is 40.

Which equation best represents this information?

(A) $x + 8 = 40$
(B) $x + 13 = 40$
(C) $3x + 8 = 40$
(D) $3x + 13 = 40$

QUESTION NO : 24

Husnain spends 12 hours a week on three hobbies. The diagram shows how much of this time he spends on each hobby.

Reading   Painting   Sport
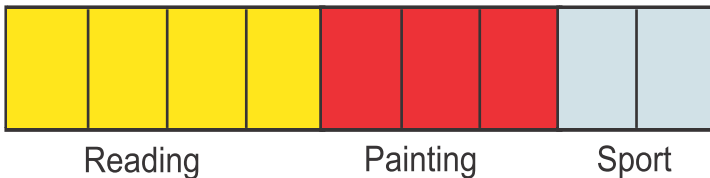
How much time does Husnain spend on reading each week?

(A)   4 hours
(B)   5 hours 20 minutes
(C)   5 hours 33 minutes
(D)   6 hours

QUESTION NO : 25

Kiran collected some spiders and some ants in her garden.
Each spider had 8 legs and each ant had 6 legs.
She collected 8 animals altogether and they had a total of 58 legs.

How many ants did Kiran collect?

(A)   2
(B)   3
(C)   5
(D)   8

QUESTION NO : 26

Laiba has written this expression:

$$\frac{6x + 3y}{3x}$$

Which of these expressions is equivalent to Laiba's expression?

$$2 + \frac{y}{x}$$

(A)

$$2 + xy$$

(C)

$$2x + \frac{y}{x}$$

(B)

$$2x + y$$

(D)

(A)   A
(B)   B
(C)   C
(D)   D

QUESTION NO : 27

Gul Khan drew on a square piece of paper. He joined two edges to make a cone.

Here is one view of Gul Khan's cone.

Which of these shows Gul Khan's square?
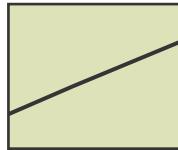
(A)

(B)
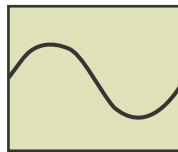
(C)

(D)
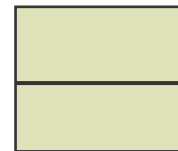
(A)   A
(B)   B
(C)   C
(D)   D

QUESTION NO : 28

Rajah is writing all the numbers from 1 to 100 in a pattern. This grid shows the start of his pattern.

	A	B	C	D	E	F	G	H	I	J
1	1	2	9	10						
2	4	3	8	11						
3	5	6	7	12						
4	16	15	14	13						
5	17									
6										
7										
8										
9										
10										

In square D4 he has written 13. In square E3 he should write

(A)   15
(B)   25
(C)   29
(D)   23

QUESTION NO : 29

All of these numbers can be divided by the same 'magic' number without leaving a remainder.

182   273   286   429

What is the 'magic' number?

(A)   3
(B)   7
(C)   11
(D)   13

QUESTION NO : 30

Shabbir and Jamal are standing on steps of different heights.

1.95 m

?

1.62 m

68 cm

23 cm
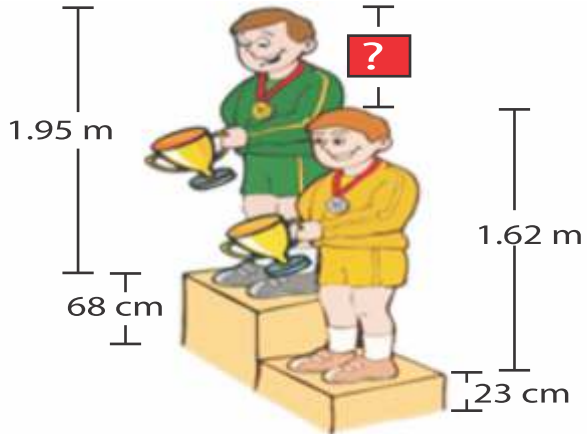
NOT TO SCALE

What is the distance between the top of Shabbir's head and the top of Jamal's head?

(A)   33 cm
(B)   45.33 cm
(C)   78 cm
(D)   91.33 cm

ANSWER SHEET
GRADE 7&8

Q.NO	ANSWER			
1	Ⓐ	Ⓑ	Ⓒ	●
2	Ⓐ	Ⓑ	●	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	●
4	Ⓐ	Ⓑ	Ⓒ	●
5	Ⓐ	Ⓑ	●	Ⓓ
6	Ⓐ	Ⓑ	Ⓒ	●
7	Ⓐ	Ⓑ	Ⓒ	●
8	Ⓐ	Ⓑ	Ⓒ	●
9	Ⓐ	Ⓑ	Ⓒ	●
10	●	Ⓑ	Ⓒ	Ⓓ
11	Ⓐ	●	Ⓒ	Ⓓ
12	Ⓐ	Ⓑ	Ⓒ	●
13	Ⓐ	Ⓑ	●	Ⓓ
14	Ⓐ	Ⓑ	●	Ⓓ
15	Ⓐ	Ⓑ	●	Ⓓ

Q.NO	ANSWER			
16	Ⓐ	●	Ⓒ	Ⓓ
17	Ⓐ	●	Ⓒ	Ⓓ
18	●	Ⓑ	Ⓒ	Ⓓ
19	●	Ⓑ	Ⓒ	Ⓓ
20	Ⓐ	Ⓑ	●	Ⓓ
21	Ⓐ	●	Ⓒ	Ⓓ
22	Ⓐ	Ⓑ	Ⓒ	●
23	Ⓐ	Ⓑ	Ⓒ	●
24	Ⓐ	●	Ⓒ	Ⓓ
25	Ⓐ	●	Ⓒ	Ⓓ
26	●	Ⓑ	Ⓒ	Ⓓ
27	Ⓐ	Ⓑ	Ⓒ	●
28	Ⓐ	Ⓑ	Ⓒ	●
29	●	Ⓑ	Ⓒ	Ⓓ
30	Ⓐ	Ⓑ	●	Ⓓ

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