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ISMO
Inter-school Maths Olympiad

10th NATIONAL INTER-SCHOOL MATHS OLYMPIAD

EXAM BOOKLET FOR CLASS 6

Official Partner

Pakistan Science Foundation

Ministry of Capital Administration and Development

PAKTURK

INTERNATIONAL SCHOOLS & COLLEGES

Islamabad, Lahore, Karachi, Peshawar, Quetta, Multan, Khairpur, Hyderabad, Jamshoro

10th NATIONAL INTER-SCHOOL MATHS OLYMPIAD

INSTRUCTIONS

1. The total time for the Olympiad is 90 minutes. There is no negative marking.
2. There are 50 questions. (Calculator is **not** allowed.)
3. Do not forget to write your name, class and gender on your answer sheet.
4. There is only one correct answer for each question out of given 4 options A, B, C, D. If you mark more than one choice the answer will be considered wrong. Mark your answers on answer sheet; marks on the booklet will not be accepted.
5. Answer sheets will be checked by using the optical reader. Do not fold or use your answer sheet for calculation etc.
6. Before you begin to answer the questions, read them carefully.
7. You may begin your answer from any question; however you must make sure that the number of the question you are answering matches the correct number in the answer sheet.
8. Mark your answer with a lead pencil by filling only the inside of the circles. Do not write or put any other mark on your answer sheet.
9. Speed is important when you answer the questions. If you have difficulty with a question, do not waste your time to solve it, just move on to the next question, You may go back to the 'difficult' question if you still have time after finishing other parts of the Olympiad.
10. The blank pages in the booklet may be used for writing and calculations.
11. Answer key will be uploaded on our website at 7:00 p.m. on 24th November 2014.
12. Results will be announced through our website (www.ismo.pk) on 8th December 2014.

Q1: $0.04 \times 0.1 = ?$

A) 0.004 **B)** 0.04 **C)** 0.4 **D)** 4

Q2: A three years old baby can count up to 10. What is the sum of the numbers which the baby can count?

A) 19 **B)** 30 **C)** 45 **D)** 55

Q3: What is the product of the third multiple of 5 and the second highest divisor of 20?

A) 150 **B)** 300 **C)** 450 **D)** 600

Q4: How many times 2048 needs to be divided by 2 to get 2?

A) 12 **B)** 11 **C)** 10 **D)** 9

Q5: $\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{3}+\frac{1}{3}+\frac{1}{3}+\frac{1}{3}+\frac{1}{3}+\frac{1}{3}=?$

A) 2 **B)** $\frac{5}{6}$ **C)** 4 **D)** $\frac{7}{5}$

Q6: $0.1+0.001+0.00001=?$

A) 0.10101 **B)** 0.1101
C) 0.0101 **D)** 0.1011

Q7: All numbers divisible by both 4 and 15 are also divisible by which of the following?

A) 19 **B)** 30 **C)** 45 **D)** 60

Q8: A student reads 4 pages of a book every day. After how many days the student can read 256 pages of that book?

A) 58 **B)** 60 **C)** 62 **D)** 64

Q9: Sum of the last two page numbers of a book is 121. What is the number of pages of the book?

A) 61 B) 60 C) 55 D) 121

Q10: $\frac{15}{13}+\frac{2}{7}+\frac{3}{5}+\frac{5}{7}+\frac{7}{5}+\frac{11}{13}=?$

A) 3 B) 4 C) 5 D) 6

Q11: Which of the following numbers can divide 123456 with a remainder 3?

A) 7 B) 8 C) 9 D) 10

Q12: The number p is greater than 0, a multiple of 6, and a factor of 180. How many possibilities are there for the value of p?

A) 5 B) 6 C) 7 D) 8

Q13: What is $75\times75+49\times49$ **?**

A) 248 B) 8026 C) 9025 D) 10450

Q14: What percent of 100 is equal to its square root?

A) 10 B) 0 C) 1 D) 2

Q15: What is the half of quarter of square of 16?

A) 16 B) 32 C) 64 D) 128

Q16: Which of the following numbers should be multiplied by 75 to get a perfect number?

A) 2 B) 3 C) 5 D) 15

Q17: $\left(2-\frac{2}{3}\right)\left(2-\frac{2}{4}\right)\left(2-\frac{2}{5}\right)\left(2-\frac{2}{6}\right)\left(2-\frac{2}{7}\right)=?$

A) $\frac{64}{7}$ B) $\frac{32}{7}$ C) $\frac{32}{5}$ D) $\frac{64}{5}$

Q18: Annual rent of a house is Rs.54600. Find its monthly rent.

A) Rs.3000 B) Rs.3550
C) Rs.4000 D) Rs.4550

Q19: Which of the following number is an integer?

A) $\frac{2014}{2\times0+1+4}$ B) $\frac{2014}{2+0+1+4}$
C) $\frac{2014}{2\times0+1\times4}$ D) $\frac{2014}{2+0\times1-4}$

Q20: Ahmad slept 6 hours 21 minutes and woke up at 07 00 in the morning. What time did he go to sleep?

A) 01 39 B) 23 52 C) 23 11 D) 00 39

Q21: If Hassan got 3245 position from the top and 5245 position from the bottom in ISMO, how many students did participate in ISMO?

A) 8490 B) 1801 C) 8489 D) 1800

Q22: What is the next day in the day pattern given below?
Monday, Wednesday, Saturday, ...

A) Sunday B) Wednesday
C) Tuesday D) Thursday

Q23: Which of the following is the prime factorization of 5400?

A) $2^3\times3^3\times5^2$ B) $2^3\times3^2\times5^2$
C) $2^4\times3^3\times5^2$ D) $2^3\times3^3\times5$

Q24: If $\frac{3A+2014}{2}=A+2013$, then what is the value of A?

A) 2011 B) 2012 C) 2022 D) 2000

Q25: If a person is 32 years old. What is the average of the present age, the age 8 years ago and the age 11 years after?

A) 12 B) 13 C) 14 D) 33

Q26: Amir chose a whole number and multiplied it by 11.

Which of the following numbers could not be his answer?

A) 33 B) 111 C) 77 D) 55

Q27: The number of students of a school can be arranged 6 by 6 or 7 by 7 for a football tournament. Which of the following number can be the number of the students of the school?

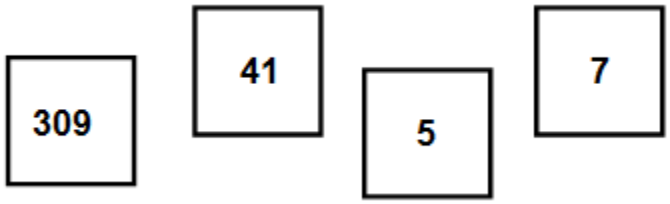
A) 966 B) 942 C) 429 D) 544

Q28: The ratio of milk and water is 2 : 1 in a mixture of 60 liters.

What is the quantity of water to be added more in order to make the ratio 1:2?

A) 20 liters B) 30 liters
C) 40 liters D) 60 liters

Q29: Four numbers are written on the cards, as shown below. What is the largest number you can form with the given cards by placing them in a row?



A) 5741309 B) 7530941
C) 7541309 D) 7415309

Q30: Twice of a number is exactly divisible by 12, 18, 21 and 30.

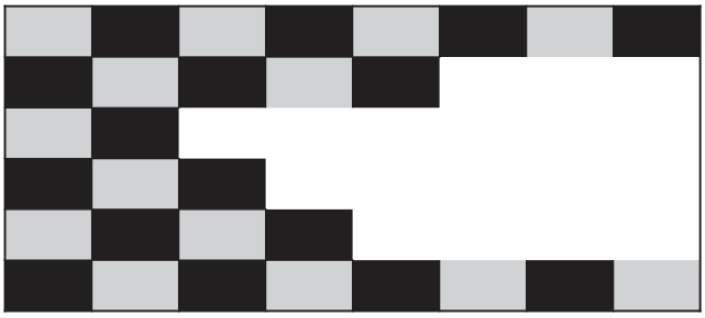
What is that number?

A) 196 B) 315 C) 630 D) 1260

Q31: If $A = 4.8$ and $B = 0.2$ then which of the following has the biggest value?

A) $A + B$ B) $A \times B$ C) $\frac{A}{B}$ D) $A - B$

Q32: A regular rectangular pattern on a wall was created with 2 kinds of tiles: grey and black. Some tiles fell down from the wall (see the picture). How many grey tiles fell down?



A) 9 **B) 10** **C) 11** **D) 12**

Q33: The product of the digits of 176 is 42. How many more three digit numbers are such that the product of the digits is 42?

A) 11 **B) 10** **C) 8** **D) 6**

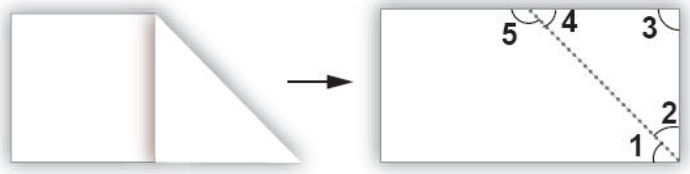
Q34: What is $\frac{A}{5}$ if $\frac{0.4}{A}=\frac{0.12}{720}$?

A) 480 **B) 720** **C) 360** **D) 960**

Q35: The average of 20 whole numbers is zero. How many of the numbers are zero?

A) 0 **B) 10** **C) 15** **D) 20**

Q36: A paper is unfoldedaccording to the given figure. Which of the following angles are supplementary angles?



A) 2 and 5 **B) 4 and 5** **C) 1 and 2** **D) 2 and 4**

Q37: A bus can take either 12 adults or 24 children. At most how many children could go up with 9 adults?

A) 3 **B) 5** **C) 6** **D) 8**

Q38: How many seconds are there in 4 hours and 24 minutes?

A) 12880 B) 15840 C) 14400 D) 15480

Q39: Six bells commenced tolling together and toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together?

A) 4 B) 10 C) 15 D) 16

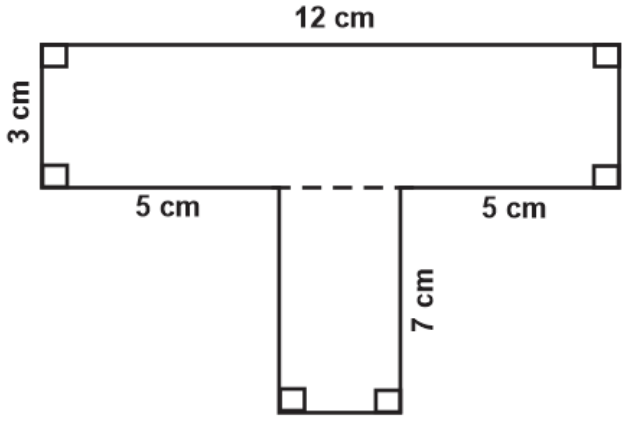
Q40: $4\times\left(\frac{0.1}{0.2}+\frac{0.01}{0.002}+\frac{0.001}{0.02}\right)\times 5=?$

A) 48 B) 85 C) 99 D) 111

Q41: The number of students in a school increases by 20% each year. If there are 2160 pupils this year, what was the enrolment last year?

A) 1750 B) 1800 C) 2000 D) 2075

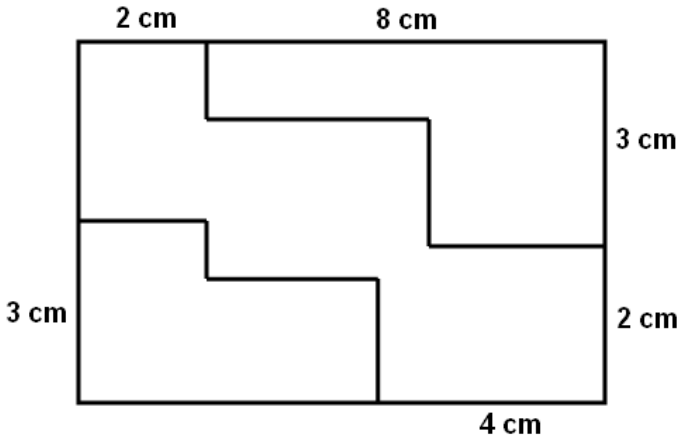
Q42: What is the area of the given figure?



A) $48\,cm^2$ **B)** $50\ cm^2$

C) $60\,cm^2$ **D)** $91\,cm^2$

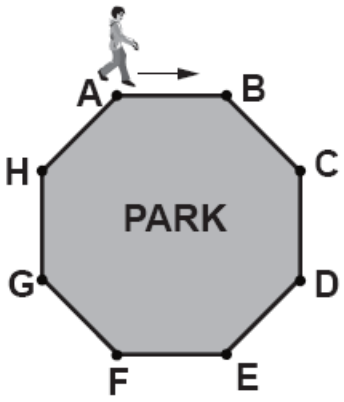
Q43: The figure below is made by using wire and all the angles are right angles. Find the length of the wire used in the figure?



A) 50 cm B) 45 cm C) 36 cm D) 32 cm

Q44: Ali walks around a park which looks like a regular octagon.

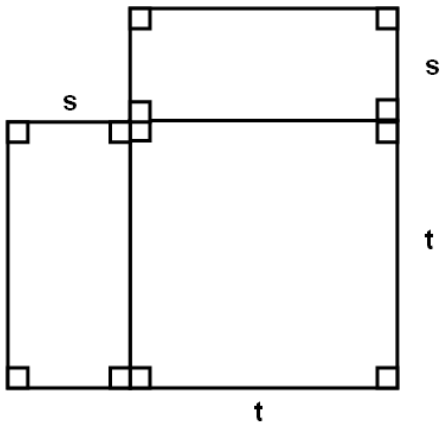
Between which points will Ali be when he walks $\frac{3}{5}$ of the perimeter of the park?



A) D and E **B) E and F**
C) F and G **D) H and A**

Q45: In the following figure, all the angles are right angles.

Which one of the following is not the perimeter of the figure if $t = 2s$?



A) $12s$ B) $6t$ C) $4(t+s)$ D) $10s$

Q46: The average of the five numbers is 84. The average of the numbers with one more number is 87.

What is the number which is added last?

A) 102 **B) 99** **C) 97** **D) 87**

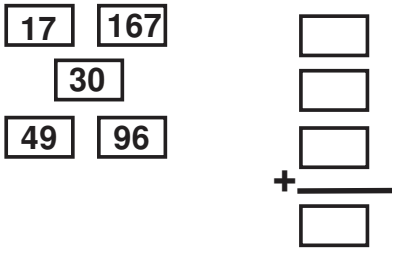
Q47: The numbers in the box below are arranged according to a rule.

4	16	32
3	9	18
5	A	B

What is A+B?

A) 25 **B) 50** **C) 75** **D) 90**

Q48: Four of the numbers on the left are moved into the cells on the right so that the addition is correct.

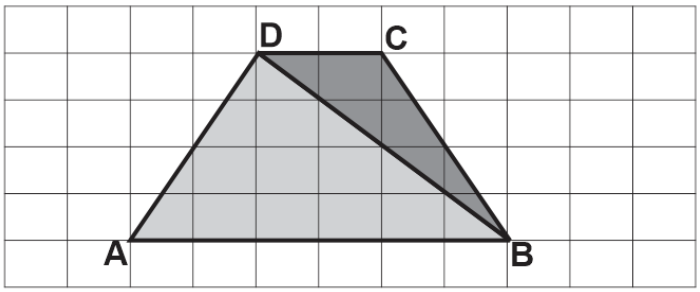


Which number remains on the left?

A) 30 B) 49 C) 96 D) 167

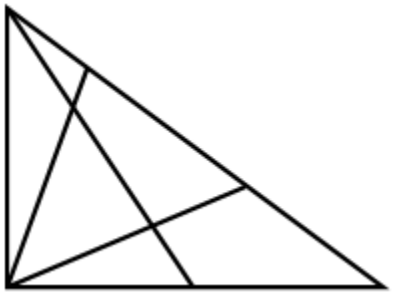
Q49: The figure below is drawn on a paper which is made by unit squares.

What is the difference of the area of the triangle ABD and the area of the triangle BDC?



A) 4 B) 6 C) 8 D) 10

Q50: How many triangles are there in the given figure?



A) 12 B) 13 C) 14 D) 15