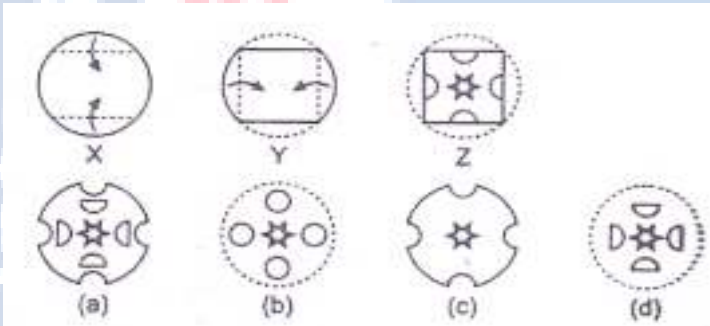
International Foundation Mathematics Olympiad(IFMO)
CLASS 9
WORKSHEET – 1

SECTION-A (Logical Reasoning)

1. In the following question, a set of three figures X,Y,Z have been given, showing a sequence in which a paper is folded and finally cut from a particular section. Below these figures a set of answer figures marked (a, b, c, d) showing the design which the paper actually acquires when it is unfolded are given. You have to select the answer figure which most closely resembles the unfolded piece of paper.



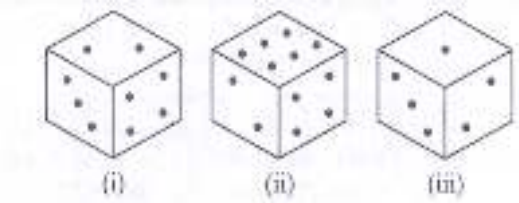
2. In the following questions, a word is followed by four alternatives (a), (b), (c), (d) showing possible water images of that word. One out of these four alternatives show the exact water-image of that word. Choose the alternative which shows the correct water image of that word.

CORDIAL

(a) LAIDROC (b) TVIDIROC

(c) COIRDIVT (d) TVIDIROC

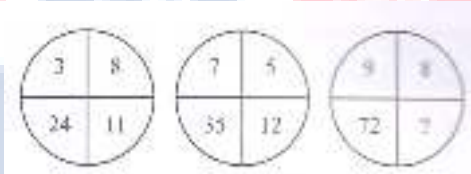
3. In the given figure find the number of dots on the face opposite the face having 3 dots.



a) 4
b) 5
c) 6
d) 2

4. This type of problem on series consists of five figures numbered A,B,C, D and E forming the set of problem figures, followed by five other figures numbered 1,2,34 and 5 forming the set of Answer figures. The five consecutive problem figures form a definite sequence and it is required to select one of the figures from the set of Answer figures which will continue the same sequence.

5. In each of the following questions a set of figures carrying certain characters is given. The characters in each set follow a similar pattern. What is the missing character in each case?



a) 16
b) 15
c) 17
d) 18

6. If A + B = 2C & C + D = 2A then which of the following is correct?
a) A+ C = 2D
b) A + C = 2B
c) A + D = B + C
d) A + C = B + D

7. Unscramble the letters in the words given and find the odd one out.
a) RDAK
b) NREGE
c) DER
d) ENOGAR

8. If MOBILITY is coded as 46293927 then EXAMINATION is coded as
a) 56149512965
b) 57159413955
c) 67250623076
d) 45069516542

9. There is a certain relation between two given words on one side of : : and one word is given on another side of : : while another word is to be found from the given alternatives having the same relations with this word as the given pair has select the best alternative.

Misogamy : Marriage : : Misogyny :?

a) Husband
b) Women
c) Relations
d) Children

10. There is a series of numbers which follow some definite order. Find the missing term and complete the series.

3, 4, 5, 5, 12, 13, 7, 24, 25, 9, ?, 41

a) 40
c) 24
b) 35
d) 16

SECTION-B (Day to Day Mathematics)

11. If $a = b = c$ then $(a + b + c)^2 - xa^2 = 0$, then $x =$

a) 2
c) 3
b) 6
d) 9

12. If $x = 2$ and $x = 0$ are roots of $f(x) = ax^2 + bx$, then a and b are

a) 0,0
c) -2, -1
b) can not be calculated
d) -2

13. If two points P and Q have same abscissae and different ordinates, then points P and Q will definitely lie on

a) Line parallel to x –axis
c) y-axis
b) x-axis
d) Line parallel to y-axis

14. A trapezium ABCD has its coordinates:

A(3,0), B (8,0), C(5,3), D(6,3) Its area (in sq. units) will be

a) 6
c) 12
b) 10
d) 9

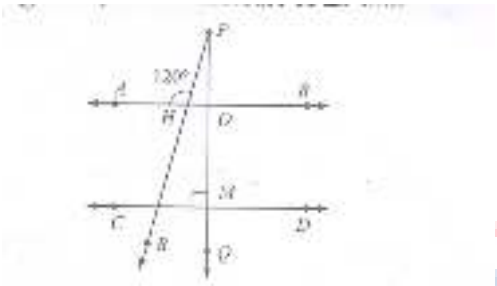
15. If $x = k^2$ and $y = k$ are solution of equation $x - 5y = -6$ then $k =$

a) 2,3
c) -3,2
b) 3,-2
d) -2,-3

16. Which of the following statement is axiom:

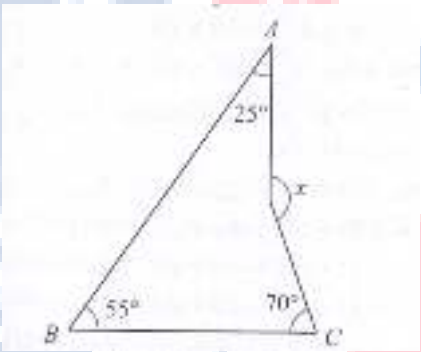
a) Halves of equals are equal
b) The sum of angles of a triangle is 180^0
c) The sum of angles of a quadrilateral is 360^0
d) The sun rises from the west

17. In the adjoining figure, AB ∥ CD and, PQ ⊥ AB, find the measure of $\angle PCM$.



a) 120^0
b) 60^0
c) 30^0
d) 90^0

18. Find x in the given figure



a) 120^0
b) 135^0
c) 150^0
d) 110^0

19. The angle of a quadrilateral are in the ratio 2:4:5:7. What is the difference between largest and smallest angle?

a) 80^0
b) 100^0
c) 60^0
d) 90^0

20. The resulting figure obtained from joining the consecutive mid points of side of a square is

a) Rectangle
b) Square
c) Trapezium
d) Rhombus

21. Tick the incorrect statement:

a) If two triangles are congruent, they have equal areas.
b) If AC is a diagonal of ∥gm ABCD, then AC divides ABCD in two equal areas.
c) Parallelograms on the same base and between the same parallels are equal in area

d) Parallelograms on equal bases and between the same parallels are unequal in area.

22. If the length of each side of a triangle is multiplied by 3, then the % increase in area will be:

a) 400%
c) 700%
b) 800%
d) 900%

23. A solid cube is cut into two cuboids of equal volumes. Find the ratio of total surface area of given cube and that of one cuboid.

a) 3 : 2
c) 3 : 1
b) 2 : 3
d) 1 : 3

24. The x –and y-axes in the histogram represent:

a) Class interval and frequency
b) Class interval and cumulative frequency
c) Frequency and class interval
d) Cumulative frequency and class interval

25. One card is drawn from a well – shuffled deck of 52 cards. The probability of drawing a red face card is:

a) $\frac{3}{26}$
c) $\frac{3}{52}$
b) $\frac{3}{13}$
d) $\frac{1}{13}$

ANSWER IFMO CLASS 9 – WORKSHEET - 1																			
1	B	2	C	3	C	4	E	5	C	6	D	7	A	8	A	9	B	10	A
11	D	12	B	13	D	14	D	15	A	16	A	17	B	18	C	19	B	20	B
21	D	22	B	23	A	24	A	25	A										