19. The perimeter of an equilateral triangle is 60 m. The area is
    a) $10\sqrt{3}\,\text{m}^2$ b) $15\sqrt{3}\,\text{m}^2$
    c) $20\sqrt{3}\,\text{m}^2$ d) $100\sqrt{3}\,\text{m}^2$

20. In a cylinder, if radius is halved and height is doubled, the volume will be
    a) Same   b) Doubled
    c) Halved   d) Four times

***

ANSWERS

1.d	2.c	3.d	4.c	5.a	6.c	7.c	8.c	9.a	10.d
11.a	12.b	13.b	14.b	15.c	16.c	17.b	18.d	19.d	20.c

CLASS –IX

INSTRUCTIONS

This is a MODEL PAPER of National Maths Hunt (NMH). This question paper contains 20 questions. For each correct answer four marks will be awarded. There is no negative marking, for each unattempted question zero marks will be awarded. Use the provided OMR sheet for answering. Use HB pencil/ball point pen to darken the circles. If you wish to change your answer, erase the already darkened circle completely and then darken the appropriate circle. Use of calculator and mobile phone is strictly prohibited during the examination.

1. Decimal representation of a rational number cannot be
   a) Terminating   b) Non-terminating
   c) Non-terminating repeating   d) Non-terminating non-repeating

2. If $x^2 + kx + 6 = (x + 2)(x + 3)$ for all x, then the value of k is
   a) 1   b) –1   c) 5   d) 3

3. If $x^{51} + 51$ is divided by $x + 1$, the remainder is
   a) 0   b) 1   c) 49   d) 50

4. Signs of the abscissa and ordinate of a point in the second quadrant are respectively
   a) +, +   b) –, –   c) –, +   d) +, –

5. Ordinate of all points on the x-axis is
   a) 0   b) 1   c) –1   d) any number

6. Write whether the following statements are True or False?
   I. Point (0, –2) lies on y-axis.
   II. The perpendicular distance of the point (4, 3) from the x-axis is 4.
   a) True, true   b) False, true
   c) True, false   d) False, false

7. The linear equation $3x - y = x - 1$ has
   a) A unique solution   b) Two solutions
   c) Infinitely many solutions   d) No solution

8. Any point on the y-axis is of the form
   a) (x, 0)   b) (x, y)   c) (0, y)   d) (y, y)

9. The point on the graph of the equation $2x + 5y = 20$ whose x-coordinate is 5/2 times its ordinate.
   a) (5,2)   b) (2,5)   c) (4,5)   d) (0,0)

10. Euclid's fifth postulate is
    a) The whole is greater than the part
    b) A circle may be described with any centre and any radius
    c) All right angles are equal to one another.
    d) If a straight line falling on two straight lines makes the interior angles on the same side of it taken together less than two right angles, then the two straight lines if produced indefinitely, meet on that side on which the sum of angles is less than two right angles.

11. The three steps from solids to points are
    a) Solids - surfaces - lines - points
    b) Solids - lines - surfaces - points
    c) Lines - points - surfaces - solids
    d) Lines - surfaces - points – solids

12. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2 : 3, then the greater of the two angles is
    a) 54°   b) 108°   c) 120°   d) 136°

13. Angles of a triangle are in the ratio 2 : 4 : 3. The smallest angle of the triangle is
    a) 60°   b) 40°   c) 80°   d) 20°

14. In $\triangle ABC$, $AB = AC$ and $\angle B = 50°$. Then $\angle C$ is equal to
    a) 40°   b) 50°   c) 80°   d) 130°

15. Which of the following is not true for a parallelogram?
    a) Opposite sides are equal
    b) Opposite angles are equal
    c) Opposite angles are bisected by the diagonals
    d) Diagonals bisect each other

16. If APB and CQD are two parallel lines, then the bisectors of the angles APQ, BPQ, CQP and PQD form
    a) A square
    b) A rhombus
    c) A rectangle
    d) Any other parallelogram

17. If a triangle and a parallelogram are on the same base and between same parallels, then the ratio of the area of the triangle to the area of parallelogram is
    a) 1 : 3   b) 1 : 2   c) 3 : 1   d) 1 : 4

18. AD is a diameter of a circle and AB is a chord. If AD = 34 cm, AB = 30 cm, the distance of AB from the centre of the circle is
    a) 17 cm   b) 15 cm   c) 4 cm   d) 8 cm