19. D and E are respectively the points on the sides AB and AC of atriangle ABC such that AD = 2cm, BD = 3cm, BC = 7.5 cm and DE || BC. Then, length of DE (in cm) is

a) 2.5 b) 3 c) 5 d) 6

20. The 10th term of the AP: 5, 8, 11, 14, ... is

a) 32 b) 35 c) 38 d) 185

***

ANSWERS

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

CLASS – X

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. The decimal expansion of the rational number 1/7 will terminate after

a) one decimal place b) two decimal places
c) three decimal places d) more than 3 decimal places

2. For some integer q, every odd integer is of the form

a) q b) q + 1 c) 2q d) 2q + 1

3. If one zero of the quadratic polynomial x2 + 3x + k is 2, then the value of k is

a) 10 b) –10 c) 5 d) –5

4. If the zeroes of the quadratic polynomial x^2+ (a + 1) x + b are 2 and –3, then

a) a = –7, b = –1 b) a = 5, b = –1
c) a = 2, b = – 6 d) a = 0, b = – 6

5. The pair of equations 5x – 15y = 8 and 3x – 9y = 24/5 has
a) one solution b) two solutions
c) infinitely many solutions d) no solution

6. The pair of equations x + 2y – 3 = 0 and 6y + 3x – 9 = 0 are
a) consistent b) non consistent
c) either a) or b) d) none of the above

7. One equation of a pair of dependent linear equations is –5x + 7y = 2. The second equation can be
a) 10x + 14y + 4 = 0 b) –10x – 14y + 4 = 0
c) –10x + 14y + 4 = 0 d) 10x – 14y = –4

8. The distance of the point P (–6, 8) from the origin is
a) 8 b) 27 c) 10 d) 6

9. The mid-point of the line segment joining the points A(–2, 8) and
B(–6, – 4) is
a) (–4,–6) b) (2,6) c) (–4,2) d) (4,2)

10. The value of (sin30° + cos30°) – (sin60° + cos60°) is
a) –1 b) 0 c) 1 d) 2

11. The value of $\frac{\tan 30}{\cot 60}$ is
a) 12 b) 13 c) 3 d) 1

12. $\sin(45°+\theta)-\cos(45°-\theta)$ is equal to
a) $2\cos\theta$ b) 0 c) $2\sin\theta$ d) 1

13. If angle between two radii of a circle is 130°, the angle between the tangents at the ends of the radii is
a) 90° b) 50° c) 70° d) 40°

14. To divide a line segment AB in the ratio p : q (p, q are positive integers), draw a ray AX so that $\angle BAX$ is an acute angle and then mark points on ray AX at equal distances such that the minimum number of these points is
a) greater of pandq b) p + q c) p + q – 1 d) pq

15. If the area of a circle is 154 cm^2, then its perimeter is
a) 11cm b) 22cm c) 44 cm d) 55 cm

16. Construction of a cumulative frequency table is useful in determining the
a) mean b) median
c) mode d) all the above three measures

17. Which of the following can be the probability of an event?
a) –0.04 b) 1.004 c) $\frac{18}{23}$ d) $\frac{8}{7}$

18. A funnel is the combination of
a) a cone and a cylinder
b) frustum of a cone and a cylinder
c) a hemisphere and a cylinder
d) a hemisphere and a cone