Mathematics – Class 6

**Algebra**

1. <img src="1\_Q.gif" >@76@74@78@72@0010
2. <img src="2\_Q.gif" > @1/2@-1/2@0@– 2@1000
3. If the zero of the polynomial in ‘x’ is -5/4 , then the polynomial is@ 4x – 5@ 5x – 4@5x + 4@4x +5@0010
4. If A = – 8x<sup>2</sup>– 6x + 10, then its value when ‘x’ =1/2 is@6@4@5@7@0010
5. The third degree polynomial among the following is @ 2x<sup>3 – 1</sup> + 3x<sup>2 – 1</sup>+ 5@ 3x<sup>4– 1</sup>+ 2x<sup>3 – 1</sup>+ 6x<sup>2 – 1</sup> + 8 @3x<sup>– 2 – 1</sup> + 4x<sup>– 2</sup> + 5@2x<sup>5 – 3</sup> + 3x<sup>4 – 3</sup> + 7@0100
6. Among the following the expression which is not a monomial is@<img src="6\_A1.gif" >@– 147 x<sup>3</sup>y<sup>2</sup>@<img src="6\_A3.gif" >@x<sup>3</sup>y<sup>5</sup>z<sup>12</sup>@0010
7. <img src="7\_Q.gif" ><sup>2</sup> + 8x + 18 is@ a<sup>2</sup> + 2a + 8@ a<sup>2</sup> + 3a + 18@a<sup>2</sup> + 4a + 18@a<sup>2</sup> + 5a + 18@0010
8. <img src="8\_Q.gif" >@ – 8@ – 10@– 9@– 11@0100
9. Degree of the polynomial p + q x<sup>m</sup> + rx<sup>m + 2</sup> + 5x<sup>m + 3</sup> + x<sup>m + 4</sup> is @ m@ m + 2@m + 3@m+ 4@0010
10. <img src="10\_Q.gif" > represents sum of the squares of first ‘n’ natural numbers, then its value when n = 10 is@ 365@ 375@395@385@0001
11. <img src="11\_Q.gif" > is@4@3@5@2@0010
12. <img src="12\_Q.gif" >@15@9@8@13@1000
13. In a polynomial 3x + 5 where x = a + 2, then its value when a = 8 is@ 25@ 45@35@40@0010
14. <img src="14\_Q.gif" > @<img src="14\_A1.gif" >@<img src="14\_A2.gif" >@<img src="14\_A3.gif" >@<img src="14\_A4.gif" >@0010
15. The simplified form of 3x<sup>3</sup> – 2x<sup>2</sup> – 8x – 6x<sup>2</sup> + 7x<sup>3</sup> + 9x + 8x<sup>3</sup> – 9x<sup>2</sup> + 6x is @ – 18x<sup>3</sup> – 17x<sup>2</sup> + 7x@ 18x<sup>3</sup> – 17x<sup>2</sup> – 7x@18x<sup>3</sup> + 17x<sup>2</sup> – 7x@18x<sup>3</sup>– 17x<sup>2</sup>+ 7x@0100
16. The ascending order of the polynomials – 3x<sup>3</sup> + 7x<sup>2</sup> – 9x<sup>4</sup> + 6x – 8 is@ – 8 + 6x + 7x<sup>2</sup> – 3x<sup>3</sup> + 9x<sup>4</sup>@ – 8 – 6x – 7x<sup>2</sup> – 3x<sup>3</sup> – 9x<sup>4</sup>@– 8 + 6x + 7x<sup>2</sup> – 3x<sup>3</sup> – 9x<sup>4</sup>@8 + 6x + 7x<sup>2</sup> + 3x<sup>3</sup> + 9x<sup>4</sup>@1000
17. If A = – 7x – 3x – 5x and B = 9x + 3x + 2x, then A + B is@ 2x @ – 2x@– x@– 3x@0010
18. <img src="18\_Q.gif" >then A – B is @ 1/12x@-1/12x@– 2x@0@1000
19. The equivalent expression of 2x<sup>3</sup>– 3x<sup>2</sup>– 8x – 3 is@3x<sup>3</sup>– 5x<sup>3</sup>+ 7x<sup>2</sup>– 5x<sup>2</sup>– 8x + 10x – 4 + 1@3x<sup>3</sup>– x<sup>3</sup>– 5x<sup>2</sup>+ 2x<sup>2</sup>– 9x + x – 7 + 4@4x<sup>3</sup>– 6x<sup>2</sup> – 3x<sup>3</sup> + 3x<sup>2</sup> + x<sup>2</sup> – 9x + 3x + 6 – 3@4x<sup>3</sup>– 2x<sup>3</sup>+ 3x<sup>2</sup>– 5x<sup>2</sup>– 8x + 6x + 4 – 1@1000
20. The descending order of 4x<sup>2</sup>– 9x<sup>3</sup>+ 3x<sup>2</sup>– 9x<sup>4</sup>+ 3x<sup>3</sup>– 9x<sup>2</sup>+ 6x – 3x + 5 – 3 is @– 9x<sup>4</sup>+ 6x<sup>3</sup> – 2x<sup>2</sup>+ 3x + 2@ – 9x<sup>4</sup>– 6x<sup>3</sup>+ 2x<sup>2</sup>– 3x + 2@– 9x<sup>4</sup>– 6x<sup>3</sup>–2x<sup>2</sup>+ 3x + 2@–9x<sup>4</sup>+ 6x<sup>3</sup>– 2x<sup>2</sup>+ 3x – 2 @0010
21. <img src="21\_Q.gif" >@ – 6x<sup>3</sup>@ 6x<sup>3</sup>@60x<sup>3</sup>@16x<sup>3</sup>@0100
22. If 2x – 3x + 5x = P, Q = – 8x + 3x + 9x and R = – 8x – 6x – 7x, then (P + Q) – R is @ 27x@ 28x@29x@26x@0010
23. If A = – 3x<sup>3</sup>– 2x<sup>3</sup>+ 4x<sup>2</sup>– 2x<sup>2</sup>,B = – 3x<sup>2</sup>+ 5x<sup>2</sup>– 8x + 3x and C = 2x – 9x – 7 + 8,then A + B + C in simplified form is@– 5x<sup>3</sup>+ 4x<sup>2</sup>– 12x + 1@ 5x<sup>3</sup> – 3x<sup>2</sup> – 12x + 1@– 5x<sup>3</sup>– 4x<sup>2</sup>– 12x – 1@5x<sup>3</sup>+ 3x<sup>2</sup>+ 12x + 1@1000
24. If 4x<sup>3</sup>y<sup>2</sup>+3x<sup>2</sup>y<sup>3</sup>–x<sup>2</sup>y<sup>5</sup> is added – 9x<sup>2</sup>y<sup>3</sup> + 6x<sup>2</sup>y<sup>5</sup> – 9x<sup>3</sup>y<sup>4</sup>, then the result is@ 4x<sup>3</sup>y<sup>2</sup> +5x<sup>2</sup>y<sup>3</sup> – 2x<sup>2</sup>y<sup>5</sup> – 9x<sup>3</sup>y<sup>4</sup>@ 4x<sup>3</sup>y<sup>2</sup> – 6x<sup>2</sup>y<sup>3</sup> – 2x<sup>2</sup>y<sup>5</sup> – 9x<sup>3</sup>y<sup>4</sup>@4x<sup>3</sup>y<sup>2</sup> – 6x<sup>2</sup>y<sup>3</sup> + 2x<sup>2</sup>y<sup>5</sup> – 9x<sup>3</sup>y<sup>4</sup>@– 4x<sup>2</sup>y<sup>2</sup> – 6x<sup>2</sup>y<sup>3</sup> – 2y<sup>2</sup>y<sup>5</sup> – 9x<sup>3</sup>y<sup>4</sup>@0100
25. If 0.5x<sup>3</sup>+ 1.85x<sup>3</sup>+ 2.96x<sup>3</sup>– 4.71x<sup>3</sup> is added to (1.25 x<sup>4</sup> – 2.5x<sup>5</sup> + 3.6x<sup>4</sup> – 4.71xD), then the result is@ 0.6x3 + 2.36x4@ – 0.6x3 – 2.36x4@0.6x3 – 2.36x4@ – 0.6x3 + 2.36x4@0010
26. If B = – 9x<sup>2</sup> + 3x – 7, then the additive inverse of B is@ 9x<sup>2</sup> – 3x – 7@9x<sup>2</sup> – 3x + 7@ – 9x<sup>2</sup> – 3x – 7@– 9x<sup>2</sup> + 3x + 7@0100
27. <img src="27\_Q.gif" >@ x<sup>2</sup> – x + 1@ – x<sup>2</sup> – x – 1@– x<sup>2</sup> + x – 1@x<sup>2</sup> + x + 1@0010
28. <img src="28\_Q.gif" >@<img src="28\_A1.gif" >@ <img src="28\_A2.gif" >@<img src="28\_A3.gif" >@<img src="28\_A4.gif" >@0100
29. <img src="29\_Q.gif" >@<img src="29\_A1.gif" >@ <img src="29\_A2.gif" >@<img src="29\_A3.gif" >@<img src="29\_A4.gif" >@0001
30. If A = 2x<sup>3</sup> – 9x<sup>2</sup> – 6x + 7 and A + B = 5x<sup>3</sup> – 6x<sup>2</sup> – 8x + 9, then the polynomial l) (A + B) – A is@ 3x3 – 3x2 – 2x + 2@3x<sup>3</sup> + 3x<sup>2</sup> – 2x + 2@3x<sup>3</sup> + 3x<sup>2</sup> + 2x + 2@– 3x<sup>3</sup> – 3x<sup>2</sup> – 2x + 2@0100
31. If A = 4x<sup>3</sup> – 9x<sup>2</sup> – 9x – 8 and A – B = – 2x<sup>3</sup> – 8x<sup>2</sup> – 6x – 2, then the polynomial B = A – (A – is@ 6x<sup>3</sup> – x<sup>2</sup> – 3x – 6@ 6x<sup>3</sup> + x<sup>2</sup> + 3x + 6@6x<sup>3</sup> + x<sup>2</sup> + 3x – 6@– 6x<sup>3</sup> – x<sup>2</sup> – 3x – 6@1000
32. Given A = 2x<sup>3</sup> – 3x<sup>2</sup> + 6x + 7 and B = 4x<sup>3</sup> – 9x<sup>2</sup> – 3x + 7, If C, D are additive inverses of A and B, then D – C is@ – 2x<sup>3</sup> + 6x<sup>2</sup> + 9x@ – 2x<sup>3</sup> + 5x<sup>2</sup> + 9x@– 2x<sup>3</sup> – 6x<sup>2</sup> + 9x@– 2x<sup>3</sup> – 6x<sup>2</sup> – 9x@1000
33. If A – B = 2x<sup>3</sup> – 3x<sup>2</sup> + 8x – 7 and B = 5x<sup>3</sup> – 9x<sup>2</sup> + 6x – 8, where A = (A – @ + B, then the polynomial A is@ 7x<sup>3</sup> – 12x<sup>2</sup> + 14x + 18@ 7x<sup>3</sup> – 12x<sup>2</sup> + 14x – 15@7x<sup>3</sup> – 12x<sup>2</sup> – 14x + 15@– 7x<sup>3</sup> + 12x<sup>2</sup> – 14x – 5@0100
34. Given and C + A = 0. If is added to A, then the result is@ x<sup>2</sup> – x + 1@ – x<sup>2</sup> – x – 1@x<sup>2</sup> + x – 1@x<sup>2</sup> – x + 1@0010
35. If A = 7x<sup>3</sup> – 2x<sup>2</sup> – 9x + 6, B = 2x<sup>3</sup> – 8x<sup>2</sup> + 3x – 5, C = 2x<sup>3</sup> – 4x<sup>2</sup> – 8x + 7, and D = – 3x<sup>3</sup> – 5x<sup>2</sup> + 6x + 7, then (A – – (B – @is@ 5x<sup>2</sup> – 2x – 11@ 5x<sup>2</sup> + 2x + 11@5x<sup>2</sup>– 2x + 11@5x<sup>2</sup> – 2x – 11@0100
36. Which out of the following are expressions with numbers only?@(7 × 20) – (5 × 10) – 45@ 3x@(7 × 20) – 8z@5 – 5n@1000
37. Perimeter of the square, whose each side is ‘n’ cm is@ 4n@ 2n @3n@None of these @1000
38. Give expression for 25 added to r.@25 + r@25 – r@25r@None of these@1000
39. Number of matchsticks required to make a pattern of “U”@ 4@5@3@6@0010
40. The \_\_\_\_\_\_\_ of the variable in an equation which satisfies the equation is called a solution to the equation.@value@term@factor@None of these@1000
41. Choose a value of 'a' that satisfies the equation 6a = -30.@5@30@-5@10@0010
42. Perimeter of an \_\_\_\_\_\_\_\_\_\_ = 3 × length of a side @ equilateral triangle@ isosceles triangle@right-angled triangle@None of these@1000
43. Which of the following is an equation?@2x + 3 = 5@2x + 3 < 5@2x + 3 > 5@2x + 3 ≤ 5@1000
44. The expression for the statement: “y multiplied by 10 and then 7 added to product” is@7y – 10@ 10y – 7@10y + 7@None of these@0010
45. An \_\_\_\_\_\_\_\_ is a condition on a variable.@ expression@ equation @equal@none of these@0100
46. Take Meena’s present age to be y years, what will be her age 5 years from now?@y+5 @5/y@y-5 @5y@1000
47. Which of the following is the perimeter of a regular hexagon of side's' units?@6 s units@12 s units@6 s2 sq units @-6 s units@1000
48. Ramu's father is thrice as old as Ramu. If father's age is 45 years, how old is Ramu?@45 years@ 30 years@15 years@10 years@0010
49. Which of the following does 2n -1 represent?@1 subtracted from the product of n and 2.@The difference of two times n and 2.@2n added to 1.@n subtracted from 2.@1000
50. Perimeter of an equilateral triangle, whose each side is ‘x’ unit is @ 4x@ 2x @3+x @3x@0001
51. Pick out the solution from the values given in the bracket next to each equation. p – 5 = 5 (0, 10, 5 –5)@0@5@-5@10@0001
52. The side of an equilateral triangle is shown by l.Express the perimeter of the equilateral triangle using l.@3l@2l@l@None of these@1000
53. Pick out the solution from the values given in the bracket next to each equation. x + 4 = 2(– 2, 0, 2, 4)@-2@4@2@1000
54. A number is multiplied by 6 and 12 is added to the product. The result is 84. What is the number?@ -12@72@12@-72@0010
55. Find the length of a side of an equilateral triangular garden whose perimeter is 66 m. @ 66 m@ 11 m@3m@22 m@0001
56. What is the method of finding a solution by trying out various values for the variable called?@ Error method @ Trial and error method @Testing method@Checking method@0100
57. Number of matchsticks required to make a pattern of “A”@4@3@6@5@0100
58. A basket has x mangoes, how many mangoes are there in 5 baskets?@5@5x@6x @x@0100
59. What do literals usually represent?@ Known quantities@Variables@Constants@Depends on the problem@0100
60. The rule, which gives the number of matchsticks required to make the matchstick pattern L, is@2 n @3 n @4n@5 n.@1000
61. The rule, which gives the number of matchsticks required to make the matchstick pattern C, i@2 n @3 n@4 n@5 n.@0100
62. The rule, which gives the number of matchsticks required to make the matchstick pattern F, is@2 n@ 3 n@4 n@5 n.@0010
63. The rule, which gives the number of matchsticks required to make the matchstick pattern U, is@2 n@3 n@4 n@5 n.@0100
64. The rule, which gives the number of matchsticks required to make the matchstick pattern V, is@2 n @3 n @4 n@5 n.@1000
65. The rule, which gives the number of matchsticks required to make the matchstick pattern A, is@2 n @ 3 n@4 n@5 n.@0100
66. The rule, which gives the number of matchsticks required to make the matchstick pattern [ ], is@ 2 n @ 3 n@4 n @5 n@0010
67. The rule, which gives the number of matchsticks required to make the matchstick pattern ≅, is@2 n@3 n@4 n@5 n.@1000
68. The rule, which gives the number of matchsticks required to make the matchstick pattern E. is@2 n @3 n@4 n @5n.@0001
69. The rule, which gives the number of matchsticks required to make the matchstick pattern A, is@ 3 n @ An @5 n @6 n.@0010
70. The rule, which gives the number of matchsticks required to make the matchstick pattern A, is@3 n @ 4 n @5 n @6 n.@1000
71. The rule, which gives the number of matchsticks required to make the matchstick pattern S, is @3 l @4 n@5 n@6 n.@0010
72. The side of a square is l. Its perimeter is@3l@2l@4l@6l@0010
73. The side of an equilateral triangle is l. Its perimeter is@l@2l @3l@6l.@0010
74. The side of a regular pentagon is l. Its perimeter is@3l@6l@4l@5l@0001
75. The side of a regular hexagon is l. Its perimeter is@l@2l@3l@6l.@0001
76. The length of an edge of a cube is l. The total length of its edges is@3l@4l@6l @12l.@0001
77. The radius of a circle is r. Its diameter is@2r@4r@3r@6r.@1000
78. Which of the following is an expression with numbers only?@ x + 1@2x@1 – x@3.@0001
79. Which of the following is an expression with numbers only?@ 2(4 – 3) + 5 × 6 @ 2 × 3 – 4x @4 × 5 – 10 × 2 – 25 + x @x8@1000
80. Which of the following is not an expression with numbers only?@ 2 × (3 + 4) @(2 + 3) × 4@2 × 3 +4 × 5 @2x + 1.@0001
81. The expression for ‘1 added top’ is @P + 1@p – 1@1 – p@– 1 – P@1000
82. The expression for ‘1 subtracted from p’ is @p – 1@p + 1@1 – p@– 1 – p.@1000
83. The expression for ‘p multiplied by 2’ is @p + 2@P – 2 @P/2 @2p@0001
84. The expression for ‘p divided by 2’ is @P/2@2p@P + 2@p – 2.@1000
85. The expression for ‘1 subtracted from -p’ is @-P-1@p – 1@1 – p@1 + p.@1000
86. The expression for ‘1 added to -p’ is@ – p + 1@ – p – 1@p + 1@p – 1.@1000
87. The expression for ‘p multiplied by – 2’ is@ -2p@ – P/2@p – 2@– p – 2.@1000
88. The expression for ‘ -p multiplied by 2’ is @ -2p@ – P/2 @p – 2@– p – 2.@1000
89. The expression for’ -p divided by 2’ is@ – P/2@ -2p@-p + 2@– p – 2.@1000
90. The expression for ‘1 added to 2p’ is@ 2p + 1@2p – 1@1 – 2p@– 1 – 2p.@1000
91. The expression for ‘1 subtracted from 2p’ is @2p – 1 @ 2p + 1@1 – 2p @-2p -1.@1000
92. The expression for added’ is ‘ 2 times x to which 1 is @2x + 1@ x + 2@1 – 2x @2x – 1.@1000
93. The expression for ‘2 times x from which 1 is subtracted’ is @2x – 1 2x + 1@x – 2@x + 2.@1000
94. The expression for ‘x is divided by 2 and the result is added to 1’ is @<img src="94\_A1.gif" ><img src="94\_A2.gif" > @2 + x@2 – x.@1000
95. The expression for ‘x is divided by – 2 and the result is added to 1’ is @1 – x/2@1 + x/2@x2 – 1@– 1 – x/2@1000
96. If Apala’s present age is x years, what will be her age in years after 20 years from now?@x + 20@ x – 20@x/20@20x.@1000
97. If Meenu’s present age is x years, what was her age in years, 10 years back? @x – 10 @10 – x@– x – 10 @10x.@1000
98. If the age of Hari Kishan is two times the age of Manish (which is x years), then the age of Hari Kishan, in years, is@x/2@2x@x + 2 @x – 2.@0100
99. The salary of Hari Kishan is two times the salary of Manish (which in Rs. x), then the salary of Hari Kishan, in rupees, is@ 2x@x/2@x + 2@x – 2.@1000
100. Which of the following is an equation in a variable?@10/2 = 5 @ 2 × 3 + 2 × 1 = 8 @2 × 4 = 8 @3p = 12.@0001