Board – ICSE	Class –VIII	Topic –Algebraic Identities

1. Use a suitable identity to get each of the following products.
   (a) (6x – 7) (6x + 7)
   (b) (7a – 9b) (7a – 9b)
2. Find the following squares by using the identities.
   (a) $(xy + 3z)^2$
   (b) $\left(6x^2 - 5y\right)^2$
3. Simplify: $\left(m^2 - n^2 m\right)^2 + 2m^3 n^2$
4. Using identities, evaluate: 297 x 303
5. If $\left(x + \frac{1}{x}\right) = 4$, find the value of
   (a) $x - \frac{1}{x}$
   (b) $x^2 + \frac{1}{x^2}$
   (c) $x^4 + \frac{1}{x^4}$
6. If $a + b = 11$ & $a^2 + b^2 = 61$, find the value of ab.
7. Find the value of: $36x^2 + 49y^2 + 84xy$, given $x = 3$ & $y = 6$
8. Expand: $(3x - 2y - 1)^2$
9. Expand: $(2 - y)^3$
10. Evaluate the following: a) 598^3 b) 103^3
11. The difference between two numbers is 5 and their product is 14. Find the difference between their cubes.

ANSWER

1. (a) $36x^2 - 49$ (b) $49a^2 - 81b^2$
2. (a) $x^2y^2 + 6xyz + 9z^2$ (b) $36x^4 - 60x^2y + 25y^2$
3. $m^4 + m^2n^4$
4. 89991
5. (a) 4 (b) 14 (c) 194
6. $ab = 30$
7. 3600
8. $9x^2 + 4y^2 + 1 - 12xy + 4y - 6x$
9. $-y^3 + 4y^2 - 8y + 8$
10. a) 231847192 b) 1092727
11. 335