ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Sub: Algebra and Geometry **Class: 7** **Date: 21.06.21**

Duration: 40 min **Worksheet Solution 29** **Full Marks: 15**

Special Products

Choose the correct option:

1. (x - 8) (x - 8) = _____

   a. x^2 - 64
   b. x^2 + 64
   c. x^2 - 16x + 64
   d. x^2 + 16x + 64

2. If a + b = 5 and ab = 6, find $a^2 + b^2$.

   a. 13
   b. 12
   c. 10
   d. 11

3. The square of $x^2 - 2y^2$ is _____

   a. $x^4 - 4x^2y^2 + 4y^4$
   b. $x^4 + 4x^2y^2 + 4y^4$
   c. $x^4 - 4x^2y^2 - 4y^4$
   d. None of the above

4. Which of the following expression is equivalent to the expression (y − x + 3) (y + x − 3)?

   a. $y^2 - (x - 3)^2$
   b. $(y - x)^2 - 9$
   c. $x^2 - (y + 3)$
   d. $(x + y)^2 - 9$

5. Expand (4x − 5)(4x + 5).

   a. $4x^2 - 25$
   b. $4x^2 + 25$
   c. $16x^2 + 25$
   d. $16x^2 - 25$

6. Which of the following expressions is equivalent to the expression 945 × 855?

   a. $900^2 - 45^2$
   b. $900^2 + 45^2$
   c. $900^2 + (45 + 55)\ 900 + (45 \times 55)$
   d. $800^2 + (45 + 55)\ 800 + 45 \times 55$

7. Simplify (a - b + c)(a + b + c)

   a. $a^2 + 2ab + b^2 - c^2$
   b. $a^2 + 2ac + c^2 - b^2$
   c. $a^2 + 2bc - c^2 - b^2$
   d. $a^2 + 2ac + c^2 - b^2$

8. Expand $(x-4)^2$.

a. $x^2 - 8x + 16$

b. $x^2 - 8x - 16$

c. $x^2 + 8x + 16$

d. $x^2 - 16$

9. Solve (x - 1)(1 - x) using suitable identity

a. $x^2 + x - 1$

b. $x^2 - 2x - 1$

c. $-x^2 + 2x - 1$

d. $x^2 - x - 1$

10. The simplified form of the expression $(y^2 + 5)(y^2 - 3)$ is

a. $y^4 - 3y^2 - 15$

b. $y^4 + 2y^2 + 15$

c. $y^4 - 3y^2 + 15$

d. $y^4 + 2y^2 - 15$

11. Simplify the following product (zx - y)(zx + k) using suitable identity.

a. $z^2x^2 + (y - k)zx - ky$

b. $z^2x^2 + (k - y)zx - ky$

c. $z^2x^2 + (k - y)zx + ky$

d. $z^2x^2 + (y - k)zx + ky$

12. Expand $(x + 1)^2$.

a. $x+1$

b. $x^2 + 1$

c. $x^2 + 2x + 1$

d. $x^2 + 1^2$

13. Expand $(3x - 2)^2$.

a. $3x^2 - 12x - 4$

b. $3x^2 - 12x + 4$

c. $9x^2 - 12x + 4$

d. $9x^2 - 12x - 4$

14. Expand $(3x - ½)(3x + ½)$.

a. $9x^2 - ½$

b. $9x^2 - ¼$

c. $9x^2 + ½$

d. $9x^2 + ¼$

15. Expand $(x + 5)(x - 5)$.

a. $x^2 - 5$

b. $x^2 + 5$

c. $x^2 + 25$

d. $x^2 - 25$