

**Tareas Matemáticas 10°.1 - Factorización Simplificación**  
**Segundo Período - 2018**

**A. Resolver los siguientes productos notables:**

- |                                |                                    |
|--------------------------------|------------------------------------|
| 1. $(y + 4)(y - 4) =$          | 2. $(x + 3)^2 =$                   |
| 3. $(2x - 2)^2 =$              | 4. $(3x + 2y)^3 =$                 |
| 5. $(2x + 5) \cdot (2x - 5) =$ | 6. $(2x - 3)^3 =$                  |
| 7. $(2x + 3)(4x^2 - 6x + 9) =$ | 8. $(3x - 4)(9x^2 + 12x + 16) =$   |
| 9. $(x + 2)(x + 3) =$          | 10. $(x^2 - x + 1)^2 =$            |
| 11. $a(x + y) =$               | 12. $(2x + 5y)(5x - 3y) =$         |
| 13. $(x + 5)^2 =$              | 14. $(7a + b)^2 =$                 |
| 15. $(8 - a)^2 =$              | 16. $(3x^4 - 5y^2)^2 =$            |
| 17. $(5a + 10b)(5a - 10b) =$   | 18. $(7x^2 - 12y^3)(7x^2 + 12y^3)$ |
| 19. $(1 - 4y)^3 =$             | 20. $(5x + 2y)^3 =$                |

**B. Factorizar:**

- |                                 |                                   |
|---------------------------------|-----------------------------------|
| 21. $x^2 + 2x + xy =$           | 22. $2x^2 + x - 15 =$             |
| 23. $2x^2 + 6x - x - 3 =$       | 24. $4x^2 - 4 =$                  |
| 25. $y^2 + 6y + 9 =$            | 26. $y^2 - 6y + 9 =$              |
| 27. $x^3 - y^3 =$               | 28. $x^2 + 7x + 12 =$             |
| 29. $x^2 + 8x + 16 =$           | 30. $x^2 - 9x =$                  |
| 31. $16x^6 + 80x^3 + 75 =$      | 32. $y^2 - 19y + 84 =$            |
| 33. $a^2 + 3a - 54 =$           | 34. $x^2 + 8x + 15 =$             |
| 35. $1 - 12y + 48y^2 - 64y^3 =$ | 36. $x^3 + x^2 =$                 |
| 37. $2x^4 + 4x^2 =$             | 38. $9 + 6x + x^2 =$              |
| 39. $x^4 - 2x^2 - 3 =$          | 40. $2x^4 + x^3 - 8x^2 - x + 6 =$ |

### C. Simplificar:

41.  $\frac{2m+8}{5m+20}$

42.  $\frac{m-2}{2-m}$

43.  $\frac{12m+12n}{24x+24y}$

44.  $\frac{4a^2-9b^2}{(2a-3b)^2}$

45.  $\frac{1+a+a^2}{3a^2+3a^3+3a^4}$

46.  $\frac{m^2}{m^2-mn}$

47.  $\frac{a^2-7a+12}{a^2-8a+15}$

48.  $\frac{2a^2b}{2a^2x+2a^3}$

49.  $\frac{6ab}{6a^6b-6ab^2}$

50.  $\frac{x^2-y^2}{x^2+2xy+y^2}$

51.  $\frac{xy}{3x^2y-3xy^2}$

52.  $\frac{10a^2b^3c}{80(a^3b-a^2b)}$

53.  $\frac{x^2y-xy^2}{9x-9y}$

54.  $\frac{2ax+4bx}{3ay+6by}$

55.  $\frac{9a^2b+12ab^2}{9a^3b-15ab^3}$

56.  $\frac{25my-35my}{35nx-49ny}$

57.  $\frac{4a^2-9b^2}{2a+3b}$

58.  $\frac{x^2-4}{5ax+10a}$

59.  $\frac{ax+bx-cx}{ay+by-cy}$

60.  $\frac{m^2-mn}{m^2-2mn+n^2}$

61.  $\frac{9x^2+6x+1}{9x^2-1}$

62.  $\frac{a^2 b^2 c^2+2abc+1}{a^2 b^2 c^2+abc}$

63.  $\frac{m^2-5m+1}{m^2-3m-4}$

64.  $\frac{3m^2-5m+2}{2m^2-5m+3}$

65.  $\frac{3x^2-4x-15}{x^2-5x+6}$

### D. Factorizar:

1.  $6x^3y^2 - 4x^2y^5 + 18xy^6 =$

2.  $5x^3 - 10x^2 + 15x =$

3.  $6x^2 + 13x + 6 =$

4.  $5x^2 - 7x - 6 =$

5.  $9a^2 - 12ab^3 + 4b^6 =$

6.  $25 - x^2 =$

7.  $-x^2 - x - 6 =$

8.  $6x^2 + x - 2 =$

9.  $9a^2 - 12ab + 4b^2 =$

10.  $x^3 - x^2 + 2x - 2 =$

11.  $x^3 + 2x^2 - 3xy + y^2 - y^3 =$

12.  $ax - ay - bx + by =$

13.  $20ac + 15bc + 4ad + 3bd =$

14.  $18a^3 + 12a^2 - 15a - 10 =$

15.  $x^3 - x^2 - 4 =$

16.  $9x^4 - 4x^2 =$

17.  $x^5 + 20x^3 + 100x =$

18.  $3x^5 - 18x^3 + 27x =$

19.  $2x^3 - 50x =$

20. Dividir:  $x^2 - 7x + 6$  entre  $x - 5$  ¿?????