**INSTITUCIÓN EDUCATIVA NUESTRA SEÑORA DEL PALMAR**

**SEDE LICEO FEMENINO – PALMIRA**

**PLAN DE MEJORAMIENTO EJERCICIOS DE FACTORIZACIÓN**

**GRADO ONCE**

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***Factor común de monomios:***

1. 10b – 30ab2 =
2. 10a2 – 5a + 15a3 =
3. 2a2x + 6ax2 =
4. 9a3x2 – 18ax3 =
5. 35m2n3 – 70m3 =
6. 24a2xy2 – 36x2y4 =
7. 4x2 – 8x + 2 =
8. a3 – a2x + ax2 =
9. 34ax2 + 51a2y – 68ay2 =
10. 18mxy2 – 54m2x2y2 + 36my2 =

***Factor común de polinomios:***

1. a(x + 1) + b(x + 1) =
2. 2(x – 1) + y(x – 1) =
3. 2x(n – 1) – 3y(n – 1) =
4. x(a + 1) – a – 1 =
5. 3x(x – 2) – 2y(x – 2) =
6. 4x(m – n) + n – m =
7. a3(a – b + 1) – b2(a – b + 1) =
8. x(2a + b + c) – 2a - b – c =
9. (x + 1)(x – 2) + 3y(x – 2) =
10. (x2 + 2)(m – n) + 2(m – n) =

***Diferencia de cuadrados:***

1. a2 – 4 =
2. 1 – 4m2 =
3. a2 – 25 =
4. 100m2n4 – 169y6 =
5. 196x2y4 – 225z12 =
6. 1 – 9a2b4c6d8 =
7. 
8. 
9. 
10. 

***Trinomio cuadrado perfecto:***

1. 4x2 + 25y2 – 20xy =
2. a2 – 2ab + b2 =
3. 16 + 40x2 + 25x4 =
4. 4x2 – 12xy + 9y2 =
5. 1 + 14x2y + 49x4y2 =
6. 49m6 – 70am3n2 + 25a2n4 =
7. 121 + 198x6 + 81x12 =
8. 16 – 104x2 + 169x4 =
9. 
10. 

***Trinomio cuadrado de la forma*** x2 + bx + c***:***

1. x2 + 5x + 6=
2. x2 + 2x – 15 =
3. x2 – 5x – 14 =
4. a2 – 13a + 40 =
5. m2 – 11m – 12 =
6. m2 + 5m – 14 =
7. x2 – 6 – x =
8. c2 + 5c – 24 =
9. 12 – 8n + n2 =
10. x2 + x – 132 =

***Trinomio cuadrado de la forma a***x2 + bx + c***:***

1. 12m2 – 13m – 35
2. 14m2 – 31m – 10
3. 15m2 + 16m – 15
4. 20m2 + 44m – 15
5. 20n2 – 9n – 20
6. 20a2 – 7a – 40
7. 30m2 + 13m – 10
8. 4m2 – 20mn + 9n2
9. 6m2 – 13am – 15a2
10. 9x2 + 6xy – 8y2

***Suma o diferencia de cubos***

1. a3 – 8 =
2. x3 + 1 =
3. 27a3 + b6 =
4. 8x3 – 125 =
5. 27m6 + 64n9 =
6. a3 – 1 =
7. y3 – 1 =
8. 1 – 8x3 =
9. a3 – 125 =
10. 8a3 + 27b6 =
11. 8x3 – 27y3 =

**Miscelánea:**

1. a2 + a b
2. 3a3 - a2
3. 5 m2 + 15 m3
4. 15 c3 d2 + 60 c2 d3
5. 24 a2 x y2 – 36 x2 y4
6. 2 a2 x + 2 a x2 – 3 a x
7. 34 a x2 + 51 a2 y – 68 a y2
8. x - x2 + x3 – x4
9. 9 a2 – 12 a b + 15 a3 b2 - 24 a b3
10. 100 a2 b3 c – 150 a b2 c2 +50 a b3 c3 – 200 a b c2
11. 3 a2 b + 6 a b – 5 a3 b2 + 8 a2 b x + 4 a b2 m
12. a20 – a16 + a12 – a8 +a4 - a2
13. a(x+1) + b(x+1)
14. 2x(n-1) – 3y(n-1)
15. a(n+2) + n +2
16. x(a+1) – a –1
17. a2 + 1 – b(a2 + 1)
18. 1 – x + 2a (1-x)
19. 4x(m - n) + n – m
20. –m – n + x(m + n)
21. a3 (a – b + 1) - b2(a – b + 1)
22. 4m(a2 + x – 1) + 3m(x – 1 + a2)
23. x(2a + b + c) – 2a - b – c
24. (x + y) (n + 1) – 3(n + 1)
25. (x + 1) (x - 2) + 3y(x - 2)
26. (a + 3) (a + 1) – 4 (a + 1)
27. a(x - 1) – (a + 2) (x-1)
28. (a + b) (a - b) – (a - b) (a - b)
29. (a + b -1) (a2 + 1) - a2 – 1
30. (a + b - c) (x-3) – (b – c - a) (x-3)
31. a(n + 1) – b (n + 1) – n – 1
32. x(a + 2) – a – 2 + 3 (a + 2)
33. (1+3a) (x+1) – 2a(x+1) + 3 (x+1)
34. (3x+2)(x+y-z)-(3x+2)-(x+y-z)(3x+2)
35. a m – b m + a n – b n
36. ax – 2 b x – 2 a y + 4 b y
37. a2 x2 – 3 b x2 + a2 y2 – 3 b y2
38. 3 m – 2 n – 2 n x4 + 3 m x4
39. x2 - a2 + x - a2 x
40. 4a3 –1 - a2 + 4 a
41. 3 a b x2 – 2 y2 – 2 x 2 + 3 a b y2
42. 3 a - b2 + 2 b2 x– 6 a x
43. 4 a3 x – 4 a2 b + 3 b m – 3 a m x
44. 3 x3 – 9 a x2 – x + 3 a
45. 2 a2 x – 5 a2 y + 15 b y – 6 b x
46. 2 x2 y + 2 x z2 + y2 z2 + x y3
47. 6 m – 9 n + 21 n x – 14 mx
48. n2 x – 5 a2 y2 - n2 y2 + 5 a2 x
49. 1 + a + 3 a b + 3 b
50. 4 a m3 – 12 a m n - m2 + 3 n
51. 20 a x – 5 b x – 2 b y + 8 a y
52. 2 a m – 2 a n + 2 a – m + n – 1
53. 3 a x – 2 b y – 2 b x – 6 a + 3 a y + 4 b
54. 2 x3 – n x2 + 2 x z2 – n z2 – 3 n y2 + 6 x y2
55. a2 – 2 a b + b2
56. y4 + 1 + 2 y2
57. 9 – 6 x + x2
58. 16 + 40 x2 + 25 x4
59. 1 + 49 a2 – 14 a
60. 9 b2 – 30 a2 b + 25 a4
61. 49 m6 – 70 a m3 n2 + 25 a2 n4
62. 
63. 
64. 
65. a2 + 2 a (a+b) + (a+b)2
66. 4 – 4(1-a) + (1 – a)2
67. (m + n)2 – 2 (a – m) (m + n) + (a – m)2
68. 9(x – y)2 + 12 (x – y) (x + y) + 4 (x + y)2
69. x2 - y2
70. a2 – 25
71. 4 a2 – 9
72. 25 – 36 x4
73. 100 - x2 y6
74. 361 x14 – 1