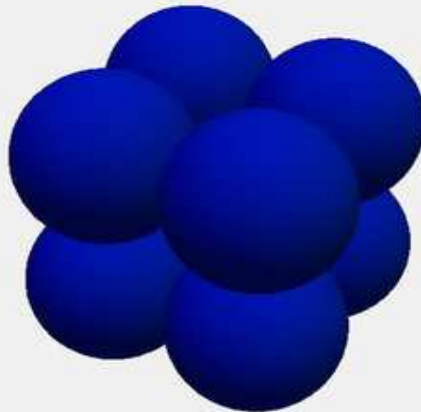


MathCon

The Mathematics Firm

Ejercicios de Factorizar Trinomios Cuadrados Perfectos

Lista de Ejercicios



www.math.com.mx

José de Jesús Angel Angel
jjaa@math.com.mx

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Factorización de trinomios

Factorizar los siguientes trinomios cuadrados perfectos.

1. $16 + 40x + 25x^2$ Sol: $(4 + 5x)^2$
2. $36 + 108x + 81x^2$ Sol: $(6 + 9x)^2$
3. $4x^2 + 28xy + 49y^2$ Sol: $(2x + 7y)^2$
4. $81x^2 + 126xy + 49y^2$ Sol: $(9x + 7y)^2$
5. $289x^2 + 374xy + 121y^2$ Sol: $(17x + 11y)^2$
6. $25\sqrt{x} + 20x^{1/4}y + 4y^2$ Sol: $(5x^{1/4} + 2y)^2$
7. $16x^{2/3} + 32\sqrt[3]{x}\sqrt{y} + 16y$ Sol: $(4\sqrt[3]{x} + 4\sqrt{y})^2$
8. $25x^{2/3} + 20\sqrt[3]{x}\sqrt[5]{y} + 4y^{2/5}$ Sol: $(5\sqrt[3]{x} + 2\sqrt[5]{y})^2$
9. $12\sqrt[4]{x}\sqrt{y} + 9\sqrt{x} + 4y$ Sol: $(3\sqrt[4]{x} + 2\sqrt{y})^2$
10. $25x^{2/5} + 50\sqrt[5]{x}\sqrt[5]{y} + 25y^{2/5}$ Sol: $(5\sqrt[5]{x} + 5\sqrt[5]{y})^2$
11. $400x^{2/3} + 320y\sqrt[3]{x} + 64y^2$ Sol: $(20\sqrt[3]{x} + 8y)^2$
12. $20\sqrt[4]{xy} + 4\sqrt{x} + 25y^2$ Sol: $(2\sqrt[4]{x} + 5y)^2$
13. $25x^{2/5} + 30\sqrt[5]{xy} + 9y^2$ Sol: $(5\sqrt[5]{x} + 3y)^2$
14. $16\sqrt[4]{xy} + 16\sqrt{x} + 4\sqrt{y}$ Sol: $(4\sqrt[4]{x} + 2\sqrt[4]{y})^2$
15. $4x^{2/3} + 12\sqrt[3]{x}\sqrt{y} + 9y$ Sol: $(4\sqrt[4]{x} + 2\sqrt[4]{y})^2$
16. $204\sqrt[4]{x}\sqrt{y} + 36\sqrt{x} + 289y$ Sol: $(2\sqrt[3]{x} + 3\sqrt{y})^2$
17. $24\sqrt[4]{x}\sqrt[5]{y} + 16\sqrt{x} + 9y^{2/5}$ Sol: $(4\sqrt[4]{x} + 3\sqrt[5]{y})^2$
18. $16x^{2/5}z^6 + 16\sqrt[5]{x}\sqrt{y}z^3 + 4y$ Sol: $(4\sqrt[5]{x}z^3 + 2\sqrt{y})^2$
19. $\frac{4x^{2/3}}{9} + \frac{8}{3}\sqrt[3]{x}\sqrt[4]{y} + 4\sqrt{y}$ Sol: $\left(\frac{2\sqrt[3]{x}}{3} + 2\sqrt[4]{y}\right)^2$
20. $10\sqrt[4]{x}\sqrt{y} + \frac{25\sqrt{x}}{4} + 4y$ Sol: $\left(\frac{5\sqrt[4]{x}}{2} + 2\sqrt{y}\right)^2$
21. $\frac{25x^{2/3}}{9} + \frac{25}{3}\sqrt[3]{x}\sqrt[4]{y} + \frac{25\sqrt{y}}{4}$ Sol: $\left(\frac{5\sqrt[3]{x}}{3} + \frac{5\sqrt[4]{y}}{2}\right)^2$
22. $\frac{20\sqrt[4]{xy}}{9} + \frac{4\sqrt{x}}{9} + \frac{25y^2}{9}$ Sol: $\left(\frac{2\sqrt[4]{x}}{3} + \frac{5y}{3}\right)^2$
23. $\frac{25x^{2/3}}{4} + \frac{25}{3}\sqrt[3]{x}\sqrt{y} + \frac{25y}{9}$ Sol: $\left(\frac{5\sqrt[3]{x}}{2} + \frac{5\sqrt{y}}{3}\right)^2$
24. $\frac{20}{9}\sqrt{x}\sqrt[3]{y} + \frac{25\sqrt{x}}{9} + \frac{4y^{2/3}}{9}$ Sol: $\left(\frac{5\sqrt[4]{x}}{3} + \frac{2\sqrt[3]{y}}{3}\right)^2$

25. $\frac{36x^{2/5}}{25} + 6\sqrt[5]{xy} + \frac{25y^2}{4}$ Sol: $\left(\frac{6\sqrt[5]{x}}{5} + \frac{5y}{2}\right)^2$
26. $\frac{16}{15}\sqrt[4]{x}\sqrt[3]{y} + \frac{16\sqrt{x}}{9} + \frac{4y^{2/3}}{25}$ Sol: $\left(\frac{4\sqrt[4]{x}}{3} + \frac{2\sqrt[3]{y}}{5}\right)^2$
27. $\frac{16x^{2/7}}{9} + \frac{10}{3}\sqrt[7]{x}\sqrt[8]{y} + \frac{25\sqrt[9]{y}}{16}$ Sol: $\left(\frac{4\sqrt[7]{x}}{3} + \frac{5\sqrt[9]{y}}{4}\right)^2$
28. $4x^{2/3}z^6 + 20\sqrt[3]{x}\sqrt[3]{y}z^3 + 25y^{2/3}$ Sol: $(2\sqrt[3]{xz^3} + 5\sqrt[3]{y})^2$
29. $16w^4\sqrt{y} + 16w^2\sqrt[5]{x}\sqrt[4]{y}z^3 + 4x^{2/5}z^6$ Sol: $(4w^2\sqrt[4]{y} + 2\sqrt[5]{xz^3})^2$
30. $9w^6y^2 + 30w^3\sqrt[3]{x}yz^3 + 25x^{2/3}z^6$ Sol: $(3w^3y + 5\sqrt[3]{xz^3})^2$
31. $16w^4y^2 + 16w^2\sqrt[4]{x}yz^3 + 4\sqrt{x}z^6$ Sol: $(4w^2y + 2\sqrt[4]{xz^3})^2$
32. $25w^6y^2 + 40w^3\sqrt[4]{x}yz^2 + 16\sqrt{x}z^4$ Sol: $(5w^3y + 4\sqrt[4]{xz^2})^2$
33. $16w^4y^{2/3} + 16w^2\sqrt[3]{x}\sqrt[3]{y}z^2 + 4x^{2/3}z^4$ Sol: $(4w^2\sqrt[3]{y} + 2\sqrt[3]{xz^2})^2$
34. $4w^6y^{2/5} + 16w^3\sqrt[5]{x}\sqrt[5]{y}z^3 + 16x^{2/5}z^6$ Sol: $(2w^3\sqrt[5]{y} + 4\sqrt[5]{xz^3})^2$
35. $\frac{9w^6y^2}{16} + \frac{9}{10}w^3\sqrt[3]{x}yz^4 + \frac{9}{25}x^{2/3}z^8$ Sol: $\left(\frac{3w^3y}{4} + \frac{3}{5}\sqrt[3]{xz^4}\right)^2$
36. $w^8y^2 + \frac{4}{3}w^4\sqrt[3]{x}yz^4 + \frac{4}{9}x^{2/3}z^8$ Sol: $(w^4y + \frac{2}{3}\sqrt[3]{xz^4})^2$
37. $\frac{1}{4}w^{10}y^{2/3} + \frac{3}{4}w^5\sqrt[3]{x}\sqrt[3]{y}z^5 + \frac{9}{16}x^{2/3}z^{10}$ Sol: $(\frac{1}{2}w^5\sqrt[3]{y} + \frac{3}{4}\sqrt[3]{xz^5})^2$
38. $\frac{4}{25}w^6y^{2/3} + \frac{3}{5}w^3\sqrt[3]{x}\sqrt[3]{y}z^3 + \frac{9}{16}x^{2/3}z^6$ Sol: $(\frac{2}{5}w^3\sqrt[3]{y} + \frac{3}{4}\sqrt[3]{xz^3})^2$
39. $\frac{16}{25}w^8y^{2/3} + \frac{24}{25}w^4\sqrt[3]{x}\sqrt[3]{y}z^2 + \frac{9}{25}x^{2/3}z^4$ Sol: $(\frac{4}{5}w^4\sqrt[3]{y} + \frac{3}{5}\sqrt[3]{xz^2})^2$
40. $\frac{1}{4}w^{10}y^{2/3} + \frac{3}{5}w^5\sqrt[4]{x}\sqrt[3]{y}z^2 + \frac{9\sqrt{x}z^4}{25}$ Sol: $(\frac{1}{2}w^5\sqrt[3]{y} + \frac{3}{5}\sqrt[4]{xz^2})^2$
41. $\frac{25w^{10}\sqrt{y}}{4} + 3w^5\sqrt[4]{x}\sqrt[4]{y}z^2 + \frac{9\sqrt{x}z^4}{25}$ Sol: $(\frac{5}{2}w^5\sqrt[4]{y} + \frac{3}{5}\sqrt[4]{xz^2})^2$
42. $\frac{25}{16}w^{10}y^{2/5} + \frac{25}{4}w^5\sqrt[4]{x}\sqrt[5]{y}z^5 + \frac{25\sqrt{x}z^{10}}{4}$ Sol: $(\frac{5}{4}w^5\sqrt[5]{y} + \frac{5}{2}\sqrt[4]{xz^5})^2$
43. $\frac{4w^4\sqrt{y}}{9} + \frac{10}{3}w^2\sqrt[3]{x}\sqrt[4]{y}z^4 + \frac{25}{4}x^{2/3}z^8$ Sol: $(\frac{2}{3}w^2\sqrt[4]{y} + \frac{5}{2}\sqrt[3]{xz^4})^2$
44. $\frac{25w^{10}\sqrt{y}}{16} + \frac{5}{3}w^5\sqrt[5]{x}\sqrt[4]{y}z^4 + \frac{4}{9}x^{2/5}z^8$ Sol: $(\frac{5}{4}w^5\sqrt[4]{y} + \frac{2}{3}\sqrt[5]{xz^4})^2$
45. $\frac{81}{4}w^4y^{2/3} + \frac{81}{5}w^2\sqrt[3]{x}\sqrt[3]{y}z^4 + \frac{81}{25}\sqrt{x}z^8$ Sol: $(\frac{9}{2}w^2\sqrt[3]{y} + \frac{9}{5}\sqrt[3]{xz^4})^2$
46. $\frac{9w^4y}{16} + \frac{15}{4}w^2\sqrt[7]{x}\sqrt{y}z^5 + \frac{25}{4}x^{2/7}z^{10}$ Sol: $\left(\frac{3w^2\sqrt{y}}{4} + \frac{5}{2}\sqrt[7]{xz^5}\right)^2$
47. $\frac{49}{4}w^8\sqrt[4]{y} + \frac{56}{5}w^4\sqrt[6]{x}\sqrt[8]{y}z^3 + \frac{64}{25}\sqrt[3]{xz^6}$ Sol: $(\frac{7}{2}w^4\sqrt[8]{y} + \frac{8}{5}\sqrt[6]{xz^3})^2$
48. $\frac{16}{49}w^{14}y^{2/9} + \frac{72}{49}w^7\sqrt[6]{x}\sqrt[9]{y}z^3 + \frac{81}{49}\sqrt[3]{xz^6}$ Sol: $(\frac{4}{7}w^7\sqrt[9]{y} + \frac{9}{7}\sqrt[6]{xz^3})^2$
49. $\frac{49}{4}w^{16}\sqrt[3]{y} + \frac{35}{9}w^8\sqrt[4]{x}\sqrt[9]{y}z^4 + \frac{25\sqrt{x}z^8}{81}$ Sol: $(\frac{7}{2}w^8\sqrt[9]{y} + \frac{5}{9}\sqrt[4]{xz^4})^2$
50. $\frac{9w^{18}\sqrt{y}}{4} + \frac{15}{4}w^9\sqrt[3]{x}\sqrt[4]{y}z^3 + \frac{25}{16}x^{2/3}z^6$ Sol: $(\frac{3}{2}w^9\sqrt[4]{y} + \frac{5}{4}\sqrt[3]{xz^3})^2$