

secondary 2 mathematics@2024-12-01

exponents

1. Simplify $a \times a^2$.
2. Simplify $a^3 \times a^4$.
3. Simplify $a^a \times a^b$.
4. Simplify $a^5 \div a^2$.
5. Simplify $a^2 \div a^5$.
6. Simplify $(a^3)^9$.
7. Simplify $(a^9)^x$.
8. Simplify $(x^y)^x$.
9. Simplify $\left(\frac{c}{d}\right)^4$.
10. Simplify $\left(\frac{c^2}{d}\right)^4$.
11. Simplify $(xy)^a$.
12. Simplify xy^a .
13. Simplify $((xy)^a)^b$.
14. Simplify $\left(\frac{ac}{bd}\right)^e$.
15. Simplify $\left(cd^2\left(\frac{a^2}{b^3}\right)^e\right)^f$.

expand

1. Expand $(7 - 3y)(y - 3)$.
2. Expand $(-7w - 4)(2w - 5)$.
3. Expand $(3v + 7)(6v - 4)$.
4. Expand $(4 - 2m)(m + 6)$.
5. Expand $(1 - 3x)(3x + 3)$.
6. Expand $4y(7y + 5)(7y + 7)$.
7. Expand $2(-7n - 6)(-n - 5)n$.
8. Expand $21s^2(3s + 7)$.
9. Expand $-6v(35v^2 - 39v - 14)$.
10. Expand $7w(3w + 2)(4w + 5)(7w + 6)$.

factor

1. Factor $a^2 - b^2$.
2. Factor $a^2 - 2a - 15$.
3. Factor $a^2 + a - 20$.

4. Factor $n^2 - 10n + 21$.
5. Factor $2y^2 + 16y + 14$.
6. Factor $n^2 + 6n + 5$.
7. Factor $x^2 - 5xz - 6z^2$.
8. Factor $3m^2 + 12mn - 36n^2$.
9. Factor $u^4 + 8u^2 + 15$.
10. Factor $m^4 + 2m^2n^2 + n^4$.
11. Factor $(3x)^3 - (4y)^3$.
12. Factor $(3z)^3 + (4w)^3$.
13. Factor $27a^3 - 64b^3$.
14. Factor $27c^3 + 64d^3$.
15. Factor $a^2 + 2ab + b^2$.
16. Factor $4c^2 + 4cd + d^2$.
17. Factor $8e^2 + 8ef + 2f^2$.
18. Factor $v^3 - v^2 - 6v$.
19. Factor $2a^4 + 12a^3 + 16a^2$.
20. Factor $2n^4m - 22n^2m^2 + 56m^3$.