

Power Laws

A. Simplify.

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|-------------------------|----------------------------|------------------------|----------------------------|
| 1. $x^3 \times x^4$ | 2. $y^6 \times y^7$ | 3. $z^7 \div z^5$ | 4. $z^{50} \times z^{50}$ |
| 5. $m^3 \div m^2$ | 6. $e^{-3} \times e^2$ | 7. $y^{-2} \times y^4$ | 8. $w^2 \div w^{-2}$ |
| 9. $y^2 \times y^3$ | 10. $(x^2)^5$ | 11. 17^0 | 12. $w^{-3} \times w^{-2}$ |
| 13. $w^{-7} \times w^2$ | 14. $x^3 \div x^{-1}$ | 15. $(a^2)^4$ | 16. $(k^3)^6$ |
| 17. $e^{-4} \times e^4$ | 18. $x^{-1} \times x^{30}$ | 19. $(y^4)^2$ | 20. $(x^{-3})^{-2}$ |

B. Simplify.

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|-------------------------|-------------------------|----------------------------|--------------------------|
| 1. $(2x^3)^2$ | 2. $(4y^5)^2$ | 3. $2x^2 \times 3x^2$ | 4. $5y^3 \times 2y^2$ |
| 5. $5a^3 \times 3a$ | 6. $(2a)^3$ | 7. $3x^3 \div x^3$ | 8. $8y^3 \div 2y$ |
| 9. $10y^2 \div 4y$ | 10. $8a \times 4a^3$ | 11. $(2x)^2 \times (3x)^3$ | 12. $4z^4 \times z^{-7}$ |
| 13. $6x^{-2} \div 3x^2$ | 14. $5y^3 \div 2y^{-2}$ | | |

C. Rewrite without brackets.

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|-----------------|-----------------|------------------|----------------|
| 1. $(5x^2)^2$ | 2. $(7y^3)^2$ | 3. $(10ab)^2$ | 4. $(2xy^2)^2$ |
| 5. $(4x^2)^2$ | 6. $(5x^0)^2$ | 7. $[(5x)^0]^2$ | 8. $(7y^0)^2$ |
| 9. $[(7y)^0]^2$ | 10. $(2x^2y)^3$ | 11. $(10xy^3)^2$ | 12. $(abc)^0$ |