

Product of powers

Write each product as a single power.

1. $3^5 \times 3^4 =$ _____

2. $3^3 \times 3^6 =$ _____

3. $6^{-3} \times 6^5 =$ _____

4. $2^4 \times 2^{-1} =$ _____

5. $3^7 \times 3^3 =$ _____

6. $6^4 \times 6^3 =$ _____

7. $5^6 \times 5^{-2} =$ _____

8. $3^6 \times 3^{-2} =$ _____

9. $10^4 \times 10^2 =$ _____

10. $7^{-4} \times 7^6 =$ _____

11. $10^{-3} \times 10^{-2} =$ _____

12. $10^5 \times 10^7 =$ _____

Quotient of powers

Write each quotient as a single power.

1. $5^8 \div 5^3 =$ _____

2. $5^8 \div 5^6 =$ _____

3. $5^{-1} \div 5^2 =$ _____

4. $2^{-3} \div 2^{-1} =$ _____

5. $5^7 \div 5^3 =$ _____

6. $10^3 \div 10^5 =$ _____

7. $10^3 \div 10^6 =$ _____

8. $4^5 \div 4^6 =$ _____

9. $5^2 \div 5^7 =$ _____

10. $2^7 \div 2^8 =$ _____

11. $3^8 \div 3^2 =$ _____

12. $6^{-2} \div 6^8 =$ _____

Power of a power

Write each expression as a single power.

1. $(7^{-2})^{-4} =$ _____

2. $(10^4)^2 =$ _____

3. $(2^3)^{-2} =$ _____

4. $(5^3)^{-2} =$ _____

5. $(6^{-3})^3 =$ _____

6. $(4^5)^3 =$ _____

7. $(2^{-2})^{-2} =$ _____

8. $(6^{-3})^2 =$ _____

9. $(4^{-3})^2 =$ _____

10. $(4^2)^3 =$ _____

11. $(10^3)^3 =$ _____

12. $(6^3)^4 =$ _____

Zero and negative exponents

Evaluate. Write fractions in simplest form.

1. $10^0 =$ _____

2. $10^{-4} =$ _____

3. $4^{-3} =$ _____

4. $3^{-2} =$ _____

5. $5^{-2} =$ _____

6. $10^{-2} =$ _____

7. $2^{-3} =$ _____

8. $3^0 =$ _____

9. $4^{-2} =$ _____

10. $5^0 =$ _____

11. $2^{-2} =$ _____

12. $2^0 =$ _____

Mixed practice

Simplify to a single power, then evaluate.

1. $(3^3)^2 \div 3^7 =$ _____

2. $(3^3)^2 \div 3^3 =$ _____

3. $(5^2)^3 \div 5^6 =$ _____

4. $3^{-6} \times 3^2 =$ _____

5. $3^2 \div 3^{-2} =$ _____

6. $5^2 \div 5^3 =$ _____

7. $5^6 \div 5^3 =$ _____

8. $(2^3)^2 \div 2^2 =$ _____

9. $10^3 \times 10^{-2} =$ _____

10. $(2^2)^3 \div 2^2 =$ _____

11. $2^{-2} \div 2^{-1} =$ _____

12. $5^4 \times 5^{-6} =$ _____