Solving Using the Laws of Exponents

Name:

Solve each problem using the laws of exponents.

1) $(2 \times 3)^4 =$ _____ = _____

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

3) $3^0 =$ _____ = _____

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

5) $2^1 =$ _____ = _____

6) $(\frac{1}{3})^2 =$ _____ = _____

7) $2^{-4} =$ _____ = _____

8) $2^3 \times 2^4 =$ _____ = _____

9) $(2 \times 3)^2 =$ _____ = _____

10) $2^{-2} \times 2^4 =$ _____ = _____

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

1-10	90	80	70	60	50	40	30	20	10	0

Solving Using the Laws of Exponents Name: **Answer Key**

Solve each problem using the laws of exponents.

1) $(2 \times 3)^4 =$ $2^4 \times 3^4$ = 1,296

2) $(2^3)^4 =$ $2^{3 \times 4}$ = 4,096

3) $3^0 =$ 1 = 1

4) $3^2 \times 3^{-3} =$ 3^{2-3} = $\frac{1}{3}$

5) $2^1 =$ 2 = 2

6) $(\frac{1}{3})^2 =$ $\frac{1}{3^2}$ = $\frac{1}{9}$

7) $2^{-4} =$ $\frac{1}{2^4}$ = $\frac{1}{16}$

8) $2^3 \times 2^4 =$ 2^{3+4} = 128

9) $(2 \times 3)^2 =$ $2^2 \times 3^2$ = 36

10) $2^{-2} \times 2^4 =$ 2^{-2+4} = 4

Answers

1. 1,296
2. 4,096
3. 1
4. $\frac{1}{3}$
5. 2
6. $\frac{1}{9}$
7. $\frac{1}{16}$
8. 128
9. 36
10. 4

1-10	90	80	70	60	50	40	30	20	10	0