Solving Using the Laws of Exponents

Name:

Solve each problem using the laws of exponents.

1) 3^{-2} = _____ = _____

2) 3^{0} = _____ = _____

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

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

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

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

7) $2^{2} \times 2^{4}$ = _____ = _____

8) $(3 \times 2)^{2}$ = _____ = _____

9) 2^{1} = _____ = _____

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

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

2) $3^{0} =$ 1 $=$ 1

3) $3^{4} \times 3^{-2} =$ 3^{4-2} $=$ 9

4) $3^{4} \times 3^{2} =$ 3^{4+2} $=$ 729

5) $(3^{2})^{4} =$ $3^{2 \times 4}$ $=$ $6{,}561$

6) $3^{-4} \times 3^{3} =$ 3^{-4+3} $=$ $\frac{1}{3}$

7) $2^{2} \times 2^{4} =$ 2^{2+4} $=$ 64

8) $(3 \times 2)^{2} =$ $3^{2} \times 2^{2}$ $=$ 36

9) $2^{1} =$ 2 $=$ 2

10) $(\frac{1}{3})^{3} =$ $\frac{1}{3^3}$ $=$ $\frac{1}{27}$

Answers

1. $\frac{1}{9}$
2. **1**
3. **9**
4. **729**
5. **6,561**
6. $\frac{1}{3}$
7. **64**
8. **36**
9. **2**
10. $\frac{1}{27}$

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