



Solve each problem using the laws of exponents.

1) $(3^2)^4 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

2) $(\frac{1}{2})^2 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

3) $3^3 \times 3^{-4} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4) $3^{-4} \times 3^3 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

5) $2^{-3} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

6) $2^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

7) $3^1 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

8) $2^0 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

9) $(2 \times 3)^2 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

10) $2^3 \times 2^4 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____



Solve each problem using the laws of exponents.

1) $(3^2)^4 = 3^{2 \times 4} = 6,561$

2) $(\frac{1}{2})^2 = \frac{1}{2^2} = \frac{1}{4}$

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

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

5) $2^{-3} = \frac{1}{2^3} = \frac{1}{8}$

6) $2^{-2} = \frac{1}{2^2} = \frac{1}{4}$

7) $3^1 = 3 = 3$

8) $2^0 = 1 = 1$

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

10) $2^3 \times 2^4 = 2^{3+4} = 128$

Answers

1. **6,561**

2. **$\frac{1}{4}$**

3. **$\frac{1}{3}$**

4. **$\frac{1}{3}$**

5. **$\frac{1}{8}$**

6. **$\frac{1}{4}$**

7. **3**

8. **1**

9. **36**

10. **128**