

Name: _____

Block: _____

2.4 Practice – Exponent Laws (Part 1)

1. Write each product as a **single power**.

a) $4^3 \times 4^2$

b) $5^0 \times 5^0$

c) $(-2)^2 \times (-2)^4$

d) $-6^3 \times 6^1$

e) $(-7)^0 \times (-7)^2$

f) $(-9)^6 \times (-9)^3$

2. Write each quotient as a **single power**.

a) $8^7 \div 8^5$

b) $10^4 \div 10^0$

c) $(-1)^6 \div (-1)^3$

d) $\frac{-3^4}{3^4}$

e) $\frac{(-9)^{10}}{(-9)^5}$

f) $\frac{11^9}{11^6}$

3. Express as a **single power**.

a) $2^3 \times 2^6 \div 2^9$

b) $(-5)^8 \div (-5)^4 \times (-5)^3$

c) $\frac{6^3 \times 6^5}{6^2 \times 6^4}$

4. **Simplify** using the exponent laws, then **evaluate**.

a) $\frac{(6^{13})(6^{10})}{6^{21}}$

b) $\frac{(-2)^4(-2)^{12}}{(-2)(-2)^9(-2)^3}$

5. Identify, then correct any errors (if any) in these answers.

a) $5^3 \times 5^2 = 5^6$

b) $2^3 \times 4^2 = 8^5$

c) $(-3)^8 \div (-3)^4 = (-3)^4$

d) $1^2 \times 1^4 - 1^3 = 1^3$

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

2.4 Practice - Answers

1. a) 4^5 b) 5^0 c) $(-2)^6$ d) -6^4 e) $(-7)^2$ f) $(-9)^9$

2. a) 8^2 b) 10^4 c) $(-1)^3$ d) -3^0 e) $(-9)^5$ f) 11^3

3. a) 2^0 b) $(-5)^7$ c) 6^2

4. a) $6^2 = 36$ b) $(-2)^3 = -8$

5. a) $5^3 \times 5^2 = 5^5$

b) $2^3 \times 4^2 = 8 \times 16 = 128$

c) This solution is correct.

d) $1^2 \times 1^4 - 1^3 = 1^6 - 1^3 = 1 - 1 = 0$

e) $\frac{4^2 \times 4^4}{4^2 \times 4^1} = \frac{4^6}{4^3} = 4^3$