Unit 2 Review

2.1 **1.** Give the base and exponent of each power.

a) 6^2 Base _____ Exponent _____

b) $(-3)^8$ Base _____ Exponent _____

2. Write as a power.

a) $4 \times 4 \times 4 \times 4 =$ ____ **b)** $(-3)(-3)(-3)(-3)(-3) =$ _____

3. Write each power as repeated multiplication and in standard form.

a) $(-2)^5 =$ _____
$=$ _____

b) $10^4 =$ _____
$=$ _____

c) Six squared $=$ _____
$=$ _____
$=$ _____

d) Five cubed $=$ _____
$=$ _____
$=$ _____

2.2 **4.** Evaluate.

a) $10^0 =$ _____ **b)** $(-4)^0 =$ _____

c) $8^1 =$ _____ **d)** $-4^0 =$ _____

5. Write each number in standard form.

a) 9×10^3
$= 9 \times$ _____ $\times$ _____ $\times$ _____
$= 9 \times$ _____
$=$ _____

b) $(1 \times 10^2) + (3 \times 10^1) + (5 \times 10^0)$
$= (1 \times$ _____$) + (3 \times$ _____$) + (5 \times$ _____$)$
$=$ _____
$=$ _____

c) $(2 \times 10^3) + (4 \times 10^2) + (1 \times 10^1) + (9 \times 10^0)$
$= (2 \times$ _____$) + (4 \times$ _____$) + (1 \times$ _____$) + (9 \times$ _____$)$
$=$ _____
$=$ _____

d) $(5 \times 10^4) + (3 \times 10^2) + (7 \times 10^1) + (2 \times 10^0)$
$=$ _____
$=$ _____
$=$ _____

2.3 **6.** Evaluate.

a) $3^2 + 3$
$=$ _____ $+ 3$
$=$ _____ $+ 3$
$=$ _____

b) $[(-2) + 4)]^3$
$=$ _____^{3}
$=$ _____
$=$ _____

c) $(20 + 5) \div 5^2 =$ _____ $\div 5^2$
$=$ _____ $\div$ _____
$=$ _____

d) $(8^2 - 4) \div (6^2 - 6)$
$= ($_____ $- 4) \div ($_____ $- 6)$
$=$ _____ $\div$ _____
$=$ _____

7. Evaluate.

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

b) $10 \times (3^2 + 5^0) = 10 \times$ _____
$= 10 \times$ _____
$=$ _____

c) $(-2)^3 + (-3)(4) =$ _____ $+$ _____
$=$ _____

d) $(-3) + 4^0 \times (-3) = (-3) +$ _____ $\times (-3)$
$= (-3) +$ _____
$=$ _____

2.4 **8.** Write as a power.

a) $6^3 \times 6^7 = 6^{(\_\_ + \_\_)}$
$= 6^{\_\_}$

b) $(-4)^2 \times (-4)^3 = (-4)^{\_\_}$
$= (-4)^{\_\_}$

c) $(-2)^5 \times (-2)^4 = (-2)^{\_\_}$
$= (-2)^{\_\_}$

d) $10^7 \times 10 =$ _____
$=$ _____

9. Write as a power.

a) $5^7 \div 5^3 = 5^{(\_\_ - \_\_)}$
$= 5^{\_\_}$

b) $\frac{10^5}{10^3} =$ _____
$=$ _____

c) $(-6)^8 \div (-6)^2 =$ _____
$=$ _____

d) $\frac{5^{10}}{5^6} =$ _____
$=$ _____

e) $8^3 \div 8 =$ _____
$=$ _____

f) $\frac{(-3)^4}{(-3)^0} =$ _____
$=$ _____

2.5 **10.** Write as a power.

a) $(5^3)^4 = 5^{\_\_ \times \_\_}$
$= 5^{\_\_}$

b) $[(-3)^2]^6 = (-3)^{\_\_ \times \_\_}$
$= (-3)^{\_\_}$

c) $(8^2)^4 =$ _____
$=$ _____

d) $[(-5)^5]^4 =$ _____
$=$ _____

11. Write as a product or quotient of powers.

a) $(3 \times 5)^2 = 3^{\_\_} \times 5^{\_\_}$

b) $(2 \times 10)^5 =$ _____

c) $[(-4) \times (-5)]^3 =$ _____

d) $\left(\frac{4}{3}\right)^5 =$ _____

e) $(12 \div 10)^4 = 12^{\_\_} \div 10^{\_\_}$

f) $[(-7) \div (-9)]^6 =$ _____