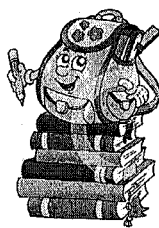


Name \_\_\_\_\_  
 Mrs. Zigrossi  
 Math 8 Maroon Period \_\_\_\_  
 Date \_\_\_\_\_

Exponents  
 Practice Quiz



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Rule:

Addition and Subtraction

1) $a + a + a$	2) $x+x+x+x+q+q+q+q+q+q+q$
3) $2x^2 + 2x^2 + 2x^2$	4) $10x^2 + x^2 + 3x^2 + 5x$
5) $10xy + 3yx$	6) $20ab - 17ab + ab$
7) $12m^2n - 4mn + 2m^2n$	8) $3m + 10m$

Rule:

Multiplication

9) $8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$	10) $3^2 \cdot 3 \cdot 3^3$
11) $(2a)(3a)(-1a)$	12) $2x^2 \cdot 2x^2 \cdot 2x^2$
13) $5(8qr^2)$	14) $4x \cdot 5x$
15) $(-6m^5n^2)(-3m^2n^4)$	16) $(2a^3b)(-8ab^2)$

Rule:

**Raising a Power to a Power**

17) $(3^2)^2$	18) $(7^4)^3$
19) $(2x)^3$	20) $(9x^3)^2$
21) $(x^2)^5$	22) $(a^4b)^2$
23) $(2k)^3$	24) $(r^7q^6)^3$

**Combined Operations - Use *Order of Operations* to simplify each.**

25)  $3m^2n + (2m)(mn)$

$$26) \quad (x^3)^5 + (3x^{10})(10x^5)$$

$$27) \quad (9a^2b^2)(2a^4b^2) + (4a^3b^2)^2$$

$$28) \quad (2x^5)(8x^2) - (5x^3)(4x^4)$$

Name \_\_\_\_\_

Exponents

Mrs. Zigrossi

Practice Quiz

Math 8 Maroon Period \_\_\_\_

Date \_\_\_\_\_



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Rule: Keep the exponents

Addition and Subtraction

1) $a + a + a$ $3a$	2) $x+x+x+x+q+q+q+q+q+q+q$ $4x + 7q$
3) $2x^2 + 2x^2 + 2x^2$ $6x^2$	4) $10x^2 + x^2 + 3x^2 + 5x$ $14x^2 + 5x$
5) $10xy + 3yx$ $13xy$	6) $20ab - 17ab + ab$ $4ab$
7) $12m^2n - 4mn + 2m^2n$ $14m^2n - 4mn$	8) $3m + 10m$ $13m$

Rule: Add the exponents

Multiplication

9) $8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$ $8^6$	10) $3^2 \cdot 3 \cdot 3^3$ $3^6$
11) $(2a)(3a)(-1a)$ $-6a^3$	12) $2x^2 \cdot 2x^2 \cdot 2x^2$ $\frac{2 \cdot 2 \cdot 2 \cdot x^2 \cdot x^2 \cdot x^2}{8x^6}$
13) $5(8qr^2)$ $40qr^2$	14) $4x \cdot 5x$ $20x^2$
15) $(-6m^5n^2)(-3m^2n^4)$ $18m^7n^6$	16) $(2a^3b)(-8ab^2)$ $-16a^4b^3$

Rule: Multiply Exponents

Raising a Power to a Power

17) $(3^2)^2 \rightarrow 3^4$ $3^2 \cdot 3^2$ $3 \cdot 3 \cdot 3 \cdot 3$	18) $(7^4)^3$ $7^{12}$
19) $(2x)^3$ $2^3 x^3$ $8x^3$	20) $(9x^3)^2$ $81x^6$
21) $(x^2)^5$ $x^{10}$	22) $(a^4b)^2$ $a^8b^2$
23) $(2k)^3$ $8k^3$	24) $(r^2q^6)^3$ $r^6q^{18}$

Combined Operations - Use Order of Operations to simplify each.

25)  $3m^2n + (2m)(mn)$   
 $3m^2n + 2m^2n$   
 $5m^2n$

26)  $(x^3)^5 + (3x^{10})(10x^5)$   
 $x^{15} + \frac{(3x^{10})(10x^5)}{}$   
 $x^{15} + 30x^{15}$   
 $\boxed{31x^{15}}$

27)  $(9a^2b^2)(2a^4b^2) + (4a^3b^2)^2$   
 $18a^6b^4 + 16a^6b^4$   
 $\boxed{34a^6b^4}$

$$28) \quad \underline{(2x^5)(8x^2)} - \underline{(5x^3)(4x^4)}$$

$$16x^7 - 20x^7$$

$$\boxed{-4x^7}$$