

## Homework 2.3 - Multiplying Monomials

Date \_\_\_\_\_ 5K \_\_\_\_\_

**Simplify by multiplying the monomials. NOTE: The DOT means multiply. Put brackets around the terms. Remember that if a variable has no exponent, the exponent is one.**

1)  $x^3 \cdot 3x^4$

$3x^7$

2)  $4x^3 \cdot 3x^3$

$12x^6$

3)  $4k \cdot 2k$

$8k^2$

4)  $4r^3 \cdot -2r^4 \cdot 3r^3$

$-24r^{10}$

5)  $3n^3 \cdot 2n^3$

$6n^6$

6)  $2ab \cdot a^2b^2$

$2a^3b^3$

7)  $2y^2 \cdot 2yx^2$

$4y^3x^2$

8)  $m^2n^4 \cdot 4mn^3$

$4m^3n^7$

9)  $-x^2 \cdot 4x^2y^2$

$-4x^4y^2$

10)  $-4xz^4 \cdot 3zx^4$

$-12x^5z^5$

11)  $4m^4p^4q^2 \cdot 4mp^4q^3$

$16m^5p^8q^5$

12)  $-2pm^4 \cdot 3n^2$

$-6pm^4n^2$

**Expand using the Distributive Property**

13)  $3(-3n - 6)$

$-9n - 18$

14)  $-2(3x - 9)$

$-6x + 18$

15)  $8(2x - 4)$

$16x - 32$

16)  $6(v + 6)$

$6v + 36$

$$17) 7x(8x - 5)$$

$$56x^2 - 35x$$

$$18) 4(6r + 2)$$

$$24r + 8$$

$$19) 7(2a - 4b)$$

$$14a - 28b$$

$$20) 3(8x - 5y)$$

$$24x - 15y$$

$$21) 5v^2(2u + 2v)$$

$$10v^2u + 10v^3$$

$$22) 7x^2(7x - 3y)$$

$$49x^3 - 21x^2y$$

$$23) 3b^2(b^2 + 7b - 4)$$

$$3b^4 + 21b^3 - 12b^2$$

$$24) 2(7n^2 - 8n + 7)$$

$$14n^2 - 16n + 14$$

$$25) 6x(6x^2 - 3x - 7)$$

$$36x^3 - 18x^2 - 42x$$

$$26) 5x(3x^2 + 5x - 4)$$

$$15x^3 + 25x^2 - 20x$$

$$27) 8x^5(6x^2 + 5x + 4)$$

$$48x^7 + 40x^6 + 32x^5$$

$$28) 4(9r^2 + 10r - 3)$$

$$36r^2 + 40r - 12$$

$$29) 6k(10k^2 + 11k - 5)$$

$$60k^3 + 66k^2 - 30k$$

$$30) 10(9n^2 - 7n - 5)$$

$$90n^2 - 70n - 50$$

$$31) \frac{8}{3} \left( \frac{7}{4}x - \frac{13}{6} \right)$$

$$\frac{14}{3}x - \frac{52}{9}$$

$$32) \frac{3x^3}{2} \left( \frac{6}{5}x - \frac{2}{3} \right)$$

$$\frac{9}{5}x^4 - x^3$$