

## WS Multiplying Polynomials

Date \_\_\_\_\_ Period \_\_\_\_\_

**Simplify. Your answer should contain only positive exponents.**

1)  $(3m^2p^2q^3)(3pm^3q^2)(4m^3p^3)$

$36m^8p^6q^5$

2)  $(yx^4z^4)(3xy^2)(3xyz)$

$9y^4x^6z^5$

3)  $(4q^4r^2)(3p^4q^4r^3)(4rp^2q^2)$

$48q^{10}r^6p^6$

4)  $(2x^2)(4x^3y^3)(5y^3z^3)$

$40x^5y^6z^3$

**Find each product.**

5)  $8v(5u - 10v)$

$40vu - 80v^2$

6)  $9(5x + 7y)$

$45x + 63y$

7)  $3a^2(9a^2 - 7ab - 3b^2)$

$27a^4 - 21a^3b - 9a^2b^2$

8)  $11(6a^2 + 11ab - 8b^2)$

$66a^2 + 121ab - 88b^2$

9)  $(8x + 8)(7x - 4)$

$56x^2 + 24x - 32$

10)  $(2p - 4)(3p - 7)$

$6p^2 - 26p + 28$

11)  $(3p + 1)(5p - 7)$

$15p^2 - 16p - 7$

12)  $(8m + 3)(7m + 3)$

$56m^2 + 45m + 9$

13)  $(5a - 2b)(7a + 4b)$

$35a^2 + 6ab - 8b^2$

14)  $(5a + 3b)(6a - 4b)$

$30a^2 - 2ab - 12b^2$

$$15) (3u + 8v)(4u - 8v) \\ 12u^2 + 8uv - 64v^2$$

$$16) (7x - 8y)(2x + 6y) \\ 14x^2 + 26xy - 48y^2$$

$$17) (8x - 8)(3x^2 - 7x + 6) \\ 24x^3 - 80x^2 + 104x - 48$$

$$18) (3a + 5)(7a^2 - 3a - 2) \\ 21a^3 + 26a^2 - 21a - 10$$

$$19) (6m + 4n)(4m^2 - 8mn - n^2) \\ 24m^3 - 32m^2n - 38mn^2 - 4n^3$$

$$20) (6x + 8y)(7x^2 - 8xy - 5y^2) \\ 42x^3 + 8x^2y - 94xy^2 - 40y^3$$

$$21) (a - 2)^2 \\ a^2 - 4a + 4$$

$$22) (5v + 5)^2 \\ 25v^2 + 50v + 25$$

$$23) (p + 5)(p - 5) \\ p^2 - 25$$

$$24) (4v - 4u)(4v + 4u) \\ 16v^2 - 16u^2$$

$$25) (7x + 2y)^2 \\ 49x^2 + 28xy + 4y^2$$

$$26) (4x + 3y)^2 \\ 16x^2 + 24xy + 9y^2$$