NAME ANSWER KEY DATE _____ PERIOD ADV

Multiplying Polynomials

Find each product.

1. $a(4a + 3)$

$4a^2 + 3a$

2. $-c(11c + 4)$

$-11c^2 - 4c$

3. $4h(3h - 5)$

$12h^2 - 20h$

4. $-4b(1 - 2b^2)$

$-4b + 8b^2$

$8b^2 - 4b$

5. $6y(-5 - y + 4y^2)$

$-30y - 6y^2 + 24y^3$

$24y^3 - 6y^2 - 30y$

6. $2m^2(2m^2 + 3m - 5)$

$4m^4 + 6m^3 - 10m^2$

Simplify each expression.

7. $w(3w + 2) + 5w$

$3w^2 + 2w + 5w$

$3w^2 + 7w$

8. $y^2(-4y + 5) - 6y^2$

$-4y^3 + 5y^2 - 6y^2$

$-4y^3 - y^2$

9. $4b(-5b - 3) - 2(b^2 - 7b - 4)$

$-20b^2 - 12b - 2b^2 + 14b + 8$

$-22b^2 + 2b + 8$

10. $3m(3m + 6) - 3(m^2 + 4m + 1)$

$9m^2 + 18m - 3m^2 - 12m - 3$

$6m^2 + 6m - 3$

Find each product.

11. $(m + 4)(m + 1)$

$m^2 + m + 4m + 4$

$m^2 + 5m + 1$

12. $(2x - 6)(x + 3)$

$2x^2 + 6x - 6x - 18$

$2x^2 - 18$

13. $(3n - 7)(n + 3)$

$3n^2 + 9n - 7n - 21$

$3n^2 + 2n - 21$

14. $(2m + 2)(3m - 3)$

$6m^2 - 6m + 6m - 6$

$6m^2 - 6$

15. $(4c + 1)(2c + 1)$

$8c^2 + 4c + 2c + 1$

$8c^2 + 6c + 1$

16. $(t + 1)(t^2 + 2t + 4)$

$t^3 + 2t^2 + 4t + t^2 + 2t + 4$

$t^3 + 3t^2 + 6t + 4$