

NAME \_\_\_\_\_

**Module 11** Simplifying Algebraic Expressions  
with Polynomials  
**Lesson 5** Multiplying Polynomials



**additional  
practice**

Find each product. Write answers in simplest form.

1.  $(c - 5)(c + 5)$

$c^2 - 25$

2.  $(m + 2)^2$

$m^2 + 4m + 4$

3.  $(a - 5)^2$

$a^2 - 10a + 25$

4.  $(4y - 2)(4y + 2)$

$16y^2 - 4$

5.  $(7x - y)^2$

$49x^2 - 14xy + y^2$

6.  $(6r - 5s)(6r + 5s)$

$36r^2 - 25s^2$

7.  $(3z + 7)^2$

$9z^2 + 42z + 49$

8.  $(3m - 8n)^2$

$9m^2 - 48mn + 64n^2$

9.  $(s - t)(s + t)$

$s^2 - t^2$

10.  $(13t - 5u)^2$

$169t^2 - 130tu + 25u^2$

11.  $(6u - 7v)^2$

$36u^2 - 84uv + 49v^2$

12.  $(4xy - 1)^2$

$16x^2y^2 - 8xy + 1$

13.  $(4p - 9q)(4p + 9q)$

$16p^2 - 81q^2$

14.  $(7c - 15d)^2$

$49c^2 - 210cd + 225d^2$

15.  $(c + 2)(c^2 - 2c + 4)$

$c^3 + 8$

16.  $(b + 3)(b^2 + 3b - 2)$

$b^3 + 6b^2 + 7b - 6$

17.  $(2b - 1)(4b^2 - b + 2)$

$8b^3 - 6b^2 + 5b - 2$

18.  $(5d - 3)(2d^2 + 3d + 6)$

$10d^3 + 9d^2 + 21d - 18$

19.  $(m + 3)(m^3 + 3m - 6)$

$m^4 + 3m^3 + 3m^2 + 3m - 18$

20.  $(2j - 1)(j^2 + 3j + 4)$

$2j^3 + 5j^2 + 5j - 4$

21.  $(x^2 + 3x + 7)(2x^2 + 9x - 6)$

$2x^4 + 15x^3 + 35x^2 + 45x - 42$

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23.  $(4g^2 - 5g + 3)(g^2 + g - 1)$

$4g^4 - g^3 - 6g^2 + 8g - 3$

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25.  $a^2 + 2a + 5$

$\times \quad a - 1$

$a^3 + a^2 + 3a - 5$

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27.  $x^2 - 3x + 2$

$\times \quad 2x^2 + x - 4$

$2x^4 - 5x^3 - 3x^2 + 14x - 8$

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22.  $(2z^2 - 5z + 3)(3z^2 + 4z - 6)$

$6z^4 - 7z^3 - 23z^2 + 42z - 18$

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24.  $(5s^2 - 2s + 4)(6s^2 - 5s + 7)$

$30s^4 - 37s^3 + 69s^2 - 34s + 28$

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26.  $2f^2 - 3f + 1$

$\times \quad 4f + 6$

$8f^3 - 14f + 6$

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28.  $4y^2 - 5y + 6$

$\times \quad 2y^2 + 3y - 4$

$8y^4 + 2y^3 - 19y^2 + 38y - 24$

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