

Name Key

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

## Multiplying Polynomials

Find each product.

1)  $6v(2v + 3)$

$$12v^2 + 18v$$

3)  $2x(-2x - 3)$

$$-4x^2 - 6x$$

5)  $(2n + 2)(6n + 1)$

$$12n^2 + 14n + 2$$

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

$$6x^2 - 20x + 6$$

9)  $(6p + 8)(5p - 8)$

$$30p^2 - 8p - 64$$

11)  $(2a - 1)(8a - 5)$

$$16a^2 - 18a + 5$$

13)  $(4p - 1)^2$

$$16p^2 - 8p + 1$$

15)  $(6n + 3)(6n - 4)$

$$36n^2 - 6n - 12$$

17)  $(6k + 5)(5k + 5)$

$$30k^2 + 55k + 25$$

19)  $(4a + 2)(6a^2 - a + 2)$

$$24a^3 + 8a^2 + 6a + 4$$

21)  $(7r^2 - 6r - 6)(2r - 4)$

$$14r^3 - 40r^2 + 12r + 24$$

23)  $(6n^2 - 6n - 5)(7n^2 + 6n - 5)$

$$42n^4 - 6n^3 - 101n^2 + 25$$

2)  $7(-5v - 8)$

$$-35v - 56$$

4)  $-4(v + 1)$

$$-4v - 4$$

6)  $(4n + 1)(2n + 6)$

$$8n^2 + 26n + 6$$

8)  $(8p - 2)(6p + 2)$

$$48p^2 + 4p - 4$$

10)  $(3m - 1)(8m + 7)$

$$24m^2 + 13m - 7$$

12)  $(5n + 6)(5n - 5)$

$$25n^2 + 5n - 30$$

14)  $(7x - 6)(5x + 6)$

$$35x^2 + 12x - 36$$

16)  $(8n + 1)(6n - 3)$

$$48n^2 - 18n - 3$$

18)  $(3x - 4)(4x + 3)$

$$12x^2 - 7x - 12$$

20)  $(7k - 3)(k^2 - 2k + 7)$

$$7k^3 - 17k^2 + 55k - 21$$

22)  $(n^2 + 6n - 4)(2n - 4)$

$$2n^3 + 8n^2 - 32n + 16$$

24)  $(m^2 - 7m - 6)(7m^2 - 3m - 7)$

$$7m^4 - 52m^3 - 28m^2 + 67m + 42$$

## Factoring Quadratics

Factor each trinomial.

1)  $3p^2 - 2p - 5$

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

3)  $3n^2 - 8n + 4$

$$(3n-2)(n-2)$$

5)  $2v^2 + 11v + 5$

$$(2v+1)(v+5)$$

7)  $7a^2 + 53a + 28$

$$(7a+4)(a+7)$$

9)  $15n^2 - 27n - 6$

$$3(5n+1)(n-2)$$

11)  $4n^2 - 15n - 25$

$$(n-5)(4n+5)$$

13)  $4n^2 - 17n + 4$

$$(n-4)(4n-1)$$

15)  $6x^2 + 37x + 6$

$$(x+6)(6x+1)$$

17)  $6n^2 + 5n - 6$

$$(2n+3)(3n-2)$$

2)  $2n^2 + 3n - 9$

$$(2n-3)(n+3)$$

4)  $5n^2 + 19n + 12$

$$(5n+4)(n+3)$$

6)  $2n^2 + 5n + 2$

$$(2n+1)(n+2)$$

8)  $9k^2 + 66k + 21$

$$3(3k+1)(k+7)$$

10)  $5x^2 - 18x + 9$

$$(5x-3)(x-3)$$

12)  $4x^2 - 35x + 49$

$$(x-7)(4x-7)$$

14)  $6x^2 + 7x - 49$

$$(3x-7)(2x+7)$$

16)  $-6a^2 - 25a - 25$

$$-(2a+5)(3a+5)$$

18)  $16b^2 + 60b - 100$

$$4(b+5)(4b-5)$$