

# Multiplying Binomials

## ANSWERS



Expand the brackets and simplify.

### Section A

1)  $(x + 2)(x + 7)$

$$x^2 + 9x + 14$$

6)  $(2x + 11)(9x + 2)$

$$18x^2 + 103x + 22$$

11)  $(8x - 3)(4x + 1)$

$$32x^2 - 4x - 3$$

2)  $(x + 9)(x + 5)$

$$x^2 + 14x + 45$$

7)  $(5x - 4)(x + 3)$

$$5x^2 + 11x - 12$$

12)  $(2x - 6)(3x - 5)$

$$6x^2 - 28x + 30$$

3)  $(x - 8)(x + 1)$

$$x^2 - 7x - 8$$

8)  $(3x + 1)(x - 2)$

$$3x^2 - 5x - 2$$

13)  $(2x - 6)(3x - 5)$

$$28x^2 + 18x - 16$$

4)  $(x - 3)(x - 4)$

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

9)  $(7x - 4)(4x - 5)$

$$28x^2 - 51x + 20$$

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

$$-x^2 + 13x - 42$$

5)  $(8x + 10)(x + 3)$

$$8x^2 + 34x + 30$$

10)  $(6x - 1)(4x + 3)$

$$24x^2 + 14x - 3$$

15)  $(3 - 2x)(2 - x)$

$$2x^2 - 7x + 6$$

### Section B

1)  $(a + b)(a + b)$

$$a^2 + 2ab + b^2$$

4)  $(4a + b)(5a + 2b)$

$$20a^2 + 13ab + 2b^2$$

7)  $(a - 3b)(11a - b)$

$$11a^2 - 34ab + 3b^2$$

2)  $(3a + b)(2a + b)$

$$6a^2 + 5ab + b^2$$

5)  $(6a + 3b)(2a - b)$

$$12a^2 - 3b^2$$

8)  $(4a + 5b)(6a - 9b)$

$$24a^2 - 6ab - 45b^2$$

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

$$5a^2 + 7ab + 2b^2$$

6)  $(7a - 5b)(a + 4b)$

$$7a^2 + 23ab - 20b^2$$

9)  $(x + 6)^2$

$$x^2 + 12x + 36$$

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10)  $(3y + 7)^2$

$9y^2 + 42y + 49$

12)  $(2a - 3b)^2$

$4a^2 - 12ab + 9b^2$

14)  $(7e - 8w)^2$

$49e^2 - 112ew + 64w^2$

11)  $(8 + 2z)^2$

$4z^2 + 32z + 64$

13)  $(3p - 4q)^2$

$9p^2 - 24pq + 16q^2$

15)  $(5x^2 + 11)^2$

$25x^4 + 110x^2 + 121$

### Section C

1)  $8(7x + 2)(x + 6)$

$56x^2 + 352x + 96$

6)  $6a(3 + a)(8 + 3a)$

$18a^3 + 102a^2 + 144a$

11)  $x(3x - 1)^2$

$9x^3 - 6x^2 + x$

2)  $3(3y + 5)(y + 1)$

$9y^2 + 24y + 15$

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

$-35x^3 + 54x^2 - 16x$

12)  $-4k(3k - 2)^2$

$-36k^3 + 48k^2 - 16k$

3)  $3(2x + 7)(8x - 1)$

$48x^2 + 162x - 21$

8)  $-7t(4 - t)(3 - 4t)$

$-28t^3 + 133t^2 - 84t$

13)  $(5x - 2)^2 + (x + 7)^2$

$26x^2 - 6x + 53$

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

$-30y^2 - 35y + 50$

9)  $6(2x + 3)^2$

$24x^2 + 72x + 54$

14)  $(3y - 1)^2 - (y - 5)^2$

$8y^2 - 4y - 24$

5)  $x(4x + 9)(7 + 3x)$

$12x^3 + 55x^2 + 63x$

10)  $-5(2y - 5)^2$

$-20y^2 + 100y - 125$

15)  $(a + b)^2 - (a - b)^2$

$4ab$