

Key

For questions 1 - 15, simplify:

Comp 1 Section 1

Adding Polynomials

1) $(3x^2 - 4x - 1) + (8x^2 - x + 6)$

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

2) $(6x^2 - x - 4) + (2x^2 + 5x - 5)$

$$8x^2 + 4x - 9$$

3) $(4x^2 + 2x - 5) + (6x^2 - x - 5)$

$$10x^2 + x - 10$$

4) $(4x^2 - x - 7) + (2x^3 + 6x^2 - 11)$

$$2x^3 + 10x^2 - x - 18$$

5) $(2x^3 - x + 4) + (5x^2 - 6x - 5)$

$$2x^3 + 5x^2 - 7x - 1$$

Section 2— Subtracting Polynomials

6) $(3x^2 + 2x + 1) - (x^2 - 3x + 4)$

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

7) $(2x^2 - 3x + 7) - (5x^2 + 3x + 6)$

$$-3x^2 - 6x + 1$$

8) $(7x^3 + 3x^2 + 4x + 10) - (10 + 8x + 3x^3)$

$$4x^3 + 3x^2 - 4x$$

9) $(5x^4 - 4x^3 - 3x - 4) - (2x - 6x^3 - 2x^4)$

$$7x^4 + 2x^3 - 5x - 4$$

10) $(7x^3 - 9x^2 - 7x - 8) - (8 - 4x^2 - 6x^3)$

$$13x^3 - 5x^2 - 7x - 16$$

Section 3—Operations with Polynomials

11) $4(a + 5) - 5(a^2 - 4a + 7)$

$$4a + 20 - 5a^2 + 20a - 35$$

$$\underline{-5a^2 + 24a - 15}$$

12) $8(y + 6) - 6(y^2 - 6y + 4)$

$$8y + 48 - 6y^2 + 36y - 24$$

$$\underline{-6y^2 + 44y + 24}$$

13) $3(c - 4) - 5(c^2 + 4c - 8)$

$$3c - 12 - 5c^2 - 20c + 40$$

$$\underline{-5c^2 - 17c + 28}$$

14) $2(y - 7) - 3(y^2 - 2y + 8)$

$$2y - 14 - 3y^2 + 6y - 24$$

$$\underline{-3y^2 + 8y - 38}$$

15) $5(x + 3) - 9(x^2 - 3x + 2)$

$$5x + 15 - 9x^2 + 27x - 18$$

$$\underline{-9x^2 + 32x - 3}$$

Comp 2 Section 1—Multiplying Polynomials Using the FOIL Process

16) $(x + 3)(x - 12)$

$$x^2 - 12x + 3x - 36$$

$$x^2 - 9x - 36$$

17) $(x - 1)(x - 10)$

$$x^2 - 10x - 1x + 10$$

$$x^2 - 11x + 10$$

18) $(x + 4)(x + 11)$

$$x^2 + 11x + 4x + 44$$

$$x^2 + 15x + 44$$

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

$$x^2 - 4x + 3x - 12$$

$$x^2 - x - 12$$

20) $(x - 10)(x - 10)$

$$x^2 - 10x - 10x + 100$$

$$x^2 - 20x + 100$$

21) $(r - 11)(r + 11)$

$$r^2 + 11r - 11r - 121$$

$$r^2 - 121$$

22) $(m + 12)(m - 12)$

$$m^2 - 12m + 12m - 144$$

$$m^2 - 144$$

Section 2—Multiplying Polynomials Using the FOIL Process—Perfect Squares

23) $(x - 3)^2$ $(x - 3)(x - 3)$

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

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

24) $(n + 4)^2$

$$n^2 + 8n + 16$$

25) $(m - 6)^2$

$$m^2 - 12m + 36$$

26) $(a + 7)^2$

$$a^2 + 14a + 49$$

27) $(b - 8)^2$

$$b^2 - 16b + 64$$

Section 3—Multiplying Polynomials Using the FOIL Process—with Two Variables

28) $(2x + 7y)(x + y)$

$$2x^2 + 2xy + 7xy + 7y^2$$

$$2x^2 + 9xy + 7y^2$$

29) $(3y - 5z)(y + z)$

$$3y^2 + 3yz - 5yz - 5z^2$$

$$3y^2 - 2yz - 5z^2$$

30) $(4x + 5y)(x + y)$

$$4x^2 + 4xy + 5xy + 5y^2$$

$$4x^2 + 9xy + 5y^2$$

31) $(3p - 4q)(p + q)$

$$3p^2 + 3pq - 4pq - 4q^2$$

$$3p^2 - pq - 4q^2$$

32) $(5c + 7d)(c + d)$

$$5c^2 + 5cd + 7cd + 7d^2$$

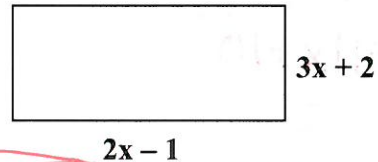
$$5c^2 + 12cd + 7d^2$$

Section 4—Multiplying Polynomials Using the FOIL Process—from Formulas

For questions 33 - 35, use the given rectangle to:

- Write an expression for the area
- Represent the area as a polynomial

33)

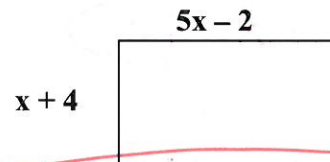


$$A = (2x - 1)(3x + 2)$$

$$6x^2 + 4x - 3x - 2$$

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

34)

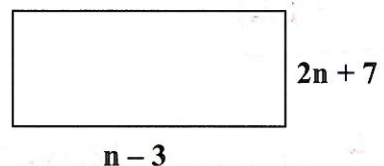


$$A = (5x - 2)(x + 4)$$

$$5x^2 + 20x - 2x - 8$$

$$5x^2 + 18x - 8$$

35)



$$A = (n - 3)(2n + 7)$$

$$2n^2 + 7n - 6n - 21$$

$$2n^2 + n - 21$$