

Algebra 1 · Adding, Subtracting and Multiplying Polynomials · Test

Common Core A-APR.A.1, A-SSE.A.2 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This test has 9 questions worth 20 points. Show every step; partial credit is given for correct setup. Calculators are not needed. Expect about 45 minutes.

Test information

- **Grade:** Algebra 1
- **Chapter:** Adding, Subtracting and Multiplying Polynomials
- **Common Core:** A-APR.A.1, A-SSE.A.2
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 2 pts; Question 7: 3 pts; Question 8: 3 pts; Question 9: 2 pts)

Question 1: Standard form and degree (2 points)

Let $P = 2x - 5x^3 + 4 - x^2$.

- Write P in standard form. (1 point)
- State the degree and the leading coefficient of P . (1 point)

Question 2: Add and subtract (2 points)

Simplify.

- $(6x^2 - 4x + 9) + (-2x^2 + 7x - 3)$ (1 point)
- $(3x^3 + 5x - 8) - (x^3 - 2x^2 + 5x + 1)$ (1 point)

Question 3: Subtract with two variables (2 points)

Subtract $(7a^2b - 3ab + 4b^2) - (2a^2b + ab - 6b^2)$.

Question 4: Multiply polynomials (2 points)

Multiply.

- a. $-4x(3x^2-2x+6)$ (1 point)
- b. $(x-6)(x^2+4x-2)$ (1 point)

Question 5: Multiply two binomials (2 points)

Multiply $(3x+4)(x-5)$. Complete the area model first, then write the product in standard form.

	3x	+4
x	?	?
-5	?	?

Area model for the product.

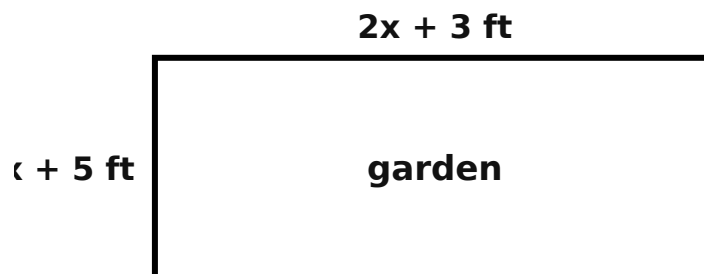
Question 6: Special products (2 points)

Expand.

- a. $(4x-3)^2$ (1 point)
- b. $(6x+5)(6x-5)$ (1 point)

Question 7: Community garden (3 points)

A community garden is a rectangle that is $2x+3$ feet long and $x+5$ feet wide.



The garden.

- Write a polynomial in standard form for the area. (1 point)
- Find the area when $x=6$. (1 point)
- Write a polynomial in standard form for the perimeter. (1 point)

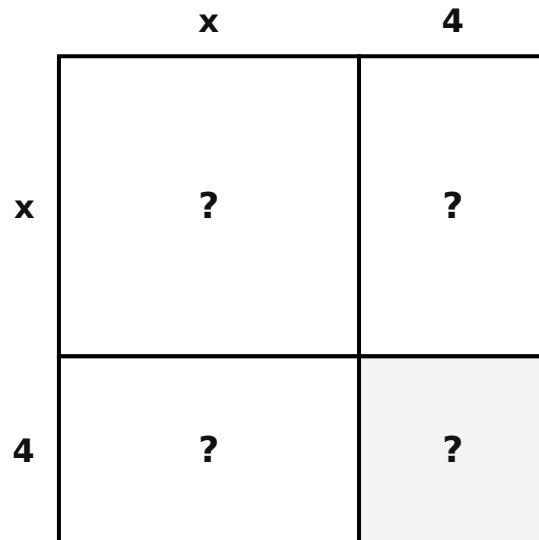
Question 8: Bakery profit (3 points)

A bakery sells x boxes of muffins. Its revenue is $R = -x^2 + 60x$ dollars and its cost is $C = 12x + 150$ dollars. Profit is revenue minus cost.

- Write a simplified polynomial for the profit. (2 points)
- Find the profit when 10 boxes are sold. (1 point)

Question 9: Explain the error (2 points)

Liam writes $(x+4)^2 = x^2 + 16$.



- Show that his result is wrong by substituting $x=1$. (1 point)
- Write the correct expansion. (1 point)