

Algebra 1 - Adding, Subtracting and Multiplying Polynomials - Quiz

Common Core A-APR.A.1 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This quick quiz has 10 questions about adding, subtracting, and multiplying polynomials, matching Common Core A-APR.A.1. Choose the best answer, then use the explanation to learn from every miss. The wrong choices come from common mistakes, so read them with care before you decide.

Algebra 1 · Common Core State Standards: **A-APR.A.1**

Questions

Question 1

What is the degree of $3x^4 - 2x^2 + 9$?

- A. 3
- B. 4
- C. 2
- D. 9

Question 2

Add $(2x^2 + 5x) + (3x^2 - 2x)$.

- A. $5x^2 + 3x$
- B. $5x^4 + 3x$
- C. $5x^2 + 7x$
- D. $6x^2 + 3x$

Question 3

Subtract $(7x - 4) - (2x - 9)$.

- A. $5x + 5$
- B. $5x - 13$
- C. $9x - 13$
- D. $5x - 5$

Question 4

	x	4
x	x^2	$4x$
3	$3x$	12

The area model shows $(x+3)(x+4)$. What is the product?

- A. x^2+12
- B. $x^2+7x+12$
- C. x^2+7x+7
- D. $2x+7$

Question 5

Multiply $(x-4)(x+6)$.

- A. $x^2+2x-24$
- B. x^2-24
- C. $x^2+10x-24$
- D. $x^2+2x+24$

Question 6

Expand $(x+7)^2$.

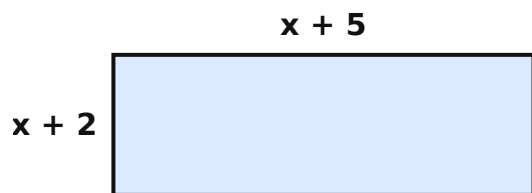
- A. x^2+49
- B. $x^2+7x+49$
- C. $x^2+14x+49$
- D. $x^2+14x+14$

Question 7

Multiply $(x+9)(x-9)$.

- A. x^2+81
- B. $x^2-18x-81$
- C. x^2-18
- D. x^2-81

Question 8



Which polynomial gives the area of the rectangle?

- A. $2x+14$
- B. x^2+10
- C. x^2+7x+7
- D. $x^2+7x+10$

Question 9

Multiply $3x(x^2-2x+4)$.

- A. $3x^3-2x+4$
- B. $3x^3-6x^2+4$
- C. $3x^3-6x^2+12x$
- D. x^3-6x^2+12x

Question 10

Expression	Polynomial?
$3x^2 + 2$	yes
$x^{-2} + 1$	?
$5x$	yes

Is $x^{-2}+1$ a polynomial?

- A. Yes, because it has two terms
- B. No, because it has a negative exponent
- C. Yes, because 1 is a constant
- D. No, because it has a constant term

Answers

1. **B** - The degree is the greatest exponent, which is 4. The leading coefficient is 3.
2. **A** - Combine like terms: $2x^2 + 3x^2 = 5x^2$ and $5x - 2x = 3x$. Exponents do not change when adding.
3. **A** - Distribute the negative: $7x - 4 - 2x + 9 = 5x + 5$.
4. **B** - The cells are x^2 , $4x$, $3x$, and 12. Combining $4x + 3x$ gives $7x$.
5. **A** - $x^2 + 6x - 4x - 24 = x^2 + 2x - 24$.
6. **C** - The middle term is $2(7)x = 14x$. Squaring each term only misses it.
7. **D** - The inner and outer terms cancel, leaving the difference of squares.
8. **D** - $(x + 5)(x + 2) = x^2 + 2x + 5x + 10 = x^2 + 7x + 10$. The expression $2x + 14$ is the perimeter.
9. **C** - Multiply $3x$ by every term in the parentheses.
10. **B** - Polynomial terms have whole-number exponents. A negative exponent means division by a power of x .

Remember

- The degree of a polynomial is its greatest exponent.
- Add or subtract by combining like terms; subtracting changes the sign of every term.
- Multiply by distributing each term, then combine like terms.
- $(a + b)^2 = a^2 + 2ab + b^2$ and $(a + b)(a - b) = a^2 - b^2$.
- The sum, difference, and product of polynomials is a polynomial.