

Classroom Voting Questions: Algebra

Section 5.4: Adding and Subtracting Polynomials

- Which of the following is NOT a polynomial expression?
 - $3x^2 - 4x - \sqrt{17}$
 - $5x^{1/2} + 7$
 - $mx + b$
 - 15
 - More than one of the above are not polynomial expressions.
- What are the terms of the algebraic expression $3y^2 - 5xy + 7$?
 - y^2 , xy , and 7
 - $3y^2$ and $5xy$
 - $3y^2$ and $-5xy$
 - $3y^2$, $5xy$, and 7
 - $3y^2$, $-5xy$, and 7
- What is the degree of the polynomial $y = 3x^2 + 2x^7 + 10x$?
 - 2
 - 3
 - 7
 - 10
- What is the degree of $7x^3 - 4x^6 + 9x^2 + 2$?
 - 3
 - 4
 - 6
 - 7
- What is the leading term of the polynomial $y = 3x^2 + 2x^7 - 11x$?

- (a) $3x^2$
- (b) $2x^7$
- (c) $-11x$
- (d) x^7
- (e) 2

6. What is the leading coefficient of the polynomial $y = 3x^2 + 2x^7 + 10x$?

- (a) 2
- (b) 3
- (c) 7
- (d) 10

7. **True or False:** The coefficients of $-4x^3 + 6x^2 - x + 9$ are $-4, 6, -1,$ and 9 .

- (a) True, and I am very confident
- (b) True, but I am not very confident
- (c) False, but I am not very confident
- (d) False, and I am very confident

8. What property is illustrated by $5x^2 + 11x^2 = (5 + 11)x^2$?

- (a) Associative property of addition
- (b) Commutative property of multiplication
- (c) Distributive property
- (d) Associative property of multiplication

9. Which of the following shows a pair of like terms?

- (a) $3x^2$ and $3x$
- (b) $3x^2$ and $4x^2$
- (c) $3x^2$ and $2x^3$
- (d) $3x^2$ and 3
- (e) All of the above

10. Simplify: $2x^2y - 3xy^2 + 7xy^2 + 8x^2y$
- (a) $14x^2y^2$
 - (b) $-x^2y + 15xy^2$
 - (c) $9x^2y + 5xy^2$
 - (d) $10x^2y + 4xy^2$
11. Simplify completely: $(3x^4 - x^2 + 7) + (-9x^2 + 1)$
- (a) $3x^4 - x^2 + 7 + 9x^2 - 1$
 - (b) $-27x^6 + 12x^4 - 64x^2 + 7$
 - (c) $-27x^8 + 12x^4 - 64x^2 + 7$
 - (d) $3x^4 - 10x^2 + 8$
12. Find the sum $(-6x^2 - 7x + 16) + (-8x^3 - 9x^2 - 16)$.
- (a) $-14x^5 - 16x^3$
 - (b) $-14x^5 - 16x^3 + 32$
 - (c) $-14x^3 - 16x^2 + 32$
 - (d) $-8x^3 - 15x^2 - 7x$
13. Simplify completely: $(3x^4 - x^2 + 7) - (-9x^2 + 1)$
- (a) $3x^4 - x^2 + 7 + 9x^2 - 1$
 - (b) $3x^4 + 8x^2 + 6$
 - (c) $3x^4 - 8x^2 + 6$
 - (d) $3x^4 - 10x^2 + 8$
14. Find the difference: $(7x^2 - 2x + 11) - (9x^3 + 9x^2 + 11)$.
- (a) $-9x^3 - 2x^2 - 2x$
 - (b) $-9x^3 + 16x^2 - 2x + 22$
 - (c) $-2x^3 - 11x^2 + 22$
 - (d) $-9x^3 + 16x^2 - 2x$

15. Perform the indicated operations and simplify:
 $(9x^2 + 8x - 2) - [(-6x^3 + 3x^2 + 7) + (-2x + 15)]$
- (a) $-6x^3 + 6x^2 + 6x + 20$
 - (b) $6x^3 + 6x^2 + 10x - 24$
 - (c) $6x^3 + 12x^2 + 6x + 20$
 - (d) $-6x^3 + 12x^2 + 10x - 24$
 - (e) $6x^3 + 6x^2 + 6x + 20$
16. $P(x) = -x^2 + 17x - 30$ represents the profit, in Euros, gained from selling x units of a product. What is the value of $P(5)$?
- (a) -30
 - (b) 12
 - (c) 30
 - (d) 80
17. $P(x) = -x^2 + 17x - 30$ represents the profit, in Euros, gained from selling x units of a product. What is the contextual meaning of $P(5) = 30$?
- (a) When 30 units are sold, the profit is 5 Euros.
 - (b) When 5 units are sold, the profit is 30 Euros.
 - (c) When 30 people sell units, their profit is 5 Euros.
 - (d) When 5 people sell units, their profit is 30 Euros.
18. What is the polynomial expression for “Eight less than the opposite of four y ”?
- (a) $8 - (-4y)$
 - (b) $-8 + 4y$
 - (c) $8 - (-yyyy)$
 - (d) $-4y - 8$
 - (e) $-yyyy - 8$