多項式的加減 Adding and Subtracting Polynomials

Class: Name:

I. Similar Questions from the class handout

1. Which of the following expressions are polynomials?

$$\Box -x^{5}$$
$$\Box \frac{2}{7}x + 3x^{2}$$
$$\Box |x| - x$$
$$\Box x^{2} + \frac{4}{x}$$
$$\Box x + |5|$$

Answer: $-x^5 \cdot \frac{2}{7}x + 3x^2 \cdot x + |5|$

2. Find the coefficient of each term.

polynomial	$7x^3 - x^2 + 8x - 6$	$x^2 - 9 - 4x^3$
coefficient of the x^3 term		
coefficient of the x^2 term		
coefficient of the x term		
coefficient of the constant term		

Answer:

polynomial	$7x^3 - x^2 + 8x - 6$	$x^2 - 9 - 4x^3$
coefficient of the x^3 term	7	-4
coefficient of the x^2 term	-1	1
coefficient of the <i>x</i> term	8	0
coefficient of the constant term	-6	-9

3. Find the degree of the following polynomials (1) $4x^3 + x^2 - 7x + 8$ (2) $x + 6x^2$ Answer: (1) 4 (2) 2

4. Write down the polynomial $-4-x^2+6x$ in both ascending and descending order. Answer: ascending order $-4+6x-x^2$; descending order $-x^2+6x-4$ 5. Which of the following expressions is a like term with $-2x^{3}$? $8x^{2}$ $5.7x^{3}$ $-x^{2}$ -3xAnswer: $5.7x^{3}$

6. Calculate $(-2x^2+6x+3)+(x^2-6x+7)$ Answer: $-x^2+10$

7. Calculate $(-3x+2)+(5-2x^2+8x)$ Answer: $-2x^2+5x+7$

8. Calculate $(5x-2+4x^2)-(2x^2-9-x)$ Answer: $2x^2+6x+7$

II. Other Questions

- 1. Which of the following statements about the polynomial $4x^3 7x + 2$ is correct?
 - (A) The coefficient of the x term is 7
 - (B) It is a quadratic polynomial
 - (C) This polynomial has a total of 4 terms
 - (D) The constant term is 2

Answer: (D)

2. Which of the following polynomials has the highest degree?

(A) 100x+2(B) $2x^4+x^3$ (C) $5x^5$ (D) $3-4x^2$ Answer: (C) 3. If $5bx^2 + 2x + 3$ is a linear polynomial, what is the value of *b*?

- (A) 1 (B) 0
- $(\mathbf{D}) \mathbf{0}$
- (C) 1
- (D) Cannot be determined

Answer: (B)

- 4. Simplify the polynomial $5x^2 3x + x^2 2x + 1$ and identify the <u>incorrect</u> statement:
 - (A) The constant term is 1
 - (B) The coefficient of the x term is 5
 - (C) The coefficient of the x^2 term is 6
 - (D) It is a quadratic polynomial

Answer: (B)

- 5. In the polynomial $8x^3 + 2x 7$, what is the coefficient of the x^2 term?
- (A) 8 (B) 0 (C) −7 (D) 2 Answer: (B)
- 6. Which of the following is a cubic polynomial of x?
- (A) $2x^2+4$ (B) 3x+7(C) 9 (D) x^3+5 Answer: (D)
- 7. Which of the following polynomials has the smallest constant term?

(A) 2x-10(B) x^3+5x-2 (C) x^4+x (D) $3x^2+x+8$ Answer: (A) 8. Simplify $(3x^2-2x+1)+(7x^2+4x-5)$ to obtain ax^2+bx+c , then what is a+b+c? (A) 2 (B) 3 (C) 5 (D) 8 Answer: (D)

- 9. For the polynomial F=9x²+x, which of the following polynomials has the same degree as F?
 (A) 6x+2
 (B) 7x
 (C)-4x²+3x-1
 (D) 1
 Answer: (C)
- 10.In the polynomial 2x²-5x+6, let the degree be *p*, the coefficient of the quadratic term be *q*, the coefficient of the linear term be *r*, and the constant term be *s*. Which of *p*, *q*, *r*, and *s* is the largest? (A) *p*(B) *q*(C) *r*(D) *s*

11.What is the degree of $4x^2 + x^3 - 7$? (A) 1 (B) 2 (C) 3 (D) 4 Answer: (C)

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12. Simplify x^3 - x^3 - x^3.

(A) -x^3

(B) x^3

(C) 3x^3

(D) -3x^3

Answer: (A)
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13. Simplify $5x^2 + 3x^2$. (A) $8x^2$ (B) $8x^4$ (C) $15x^4$ (D) Can not be simplified Answer: (A)

14. What is the sum of $(5+x^2)$ and $(-2x+7x^2-3)$? Answer: $8x^2-2x+2$

15. The sum of two polynomials is $5x^2-4x+9$. One polynomial is $8x^2+x+2$. What is the other polynomial? Answer: $-3x^2-5x+7$

16. Simplify $3x - 7x^2 - 9x - 5 + 13x^2 - 8$ Answer: $6x^2 - 6x - 13$

製作者:臺北市雙園國中 劉家宇