

MINISTRY OF EDUCATION Badaa Al Mutawa School	MATHEMATICS MCQ ASSESSMENT
Student Name: _____	Grade: 10 General
Date: _____ Subject: Mathematics	Subject Teacher: Abdulkader Amro

M11L1 – Adding and Subtracting Polynomials

Choose the ONE correct answer for each question.

Part A — Polynomials

1. Determine whether $5y^3/x^2 + 4x$ is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is a polynomial of degree 2 and a binomial.
 - B. It is not a polynomial because x^2 is in the denominator.
 - C. It is a polynomial of degree 3 and a binomial.
 - D. It is a polynomial of degree 5 and a trinomial.
2. Determine whether 21 is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is a polynomial of degree 0 and a monomial.
 - B. It is not a polynomial because it has no variable.
 - C. It is a polynomial of degree 1 and a monomial.
 - D. It is a polynomial of degree 0 and a binomial.
3. Determine whether $c^4 - 2c^2 + 1$ is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is not a polynomial because it has three terms.
 - B. It is a polynomial of degree 4 and a trinomial.
 - C. It is a polynomial of degree 2 and a trinomial.
 - D. It is a polynomial of degree 4 and a binomial.
4. Determine whether $d + 3d^c$ is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is a polynomial of degree c and a binomial.
 - B. It is a polynomial of degree d and a trinomial.
 - C. It is a polynomial of degree 1 and a binomial.
 - D. It is not a polynomial because c is not specified as a fixed nonnegative integer exponent.
5. Determine whether $a - a^2$ is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is a polynomial of degree 2 and a binomial.
 - B. It is a polynomial of degree 1 and a binomial.
 - C. It is not a polynomial because one term has a squared variable.
 - D. It is a polynomial of degree 2 and a monomial.
6. Determine whether $5n^3 + nq^3$ is a polynomial. If it is, find the degree and determine whether it is a monomial, binomial, or trinomial.
 - A. It is a polynomial of degree 4 and a binomial.
 - B. It is not a polynomial because it contains two variables.
 - C. It is a polynomial of degree 3 and a trinomial.
 - D. It is a polynomial of degree 3 and a binomial.

Part B — Standard Form & Leading Coefficient

7. Write $5x^2 - 2 + 3x$ in standard form. Identify the leading coefficient.
 - A. $5x^2 - 2 + 3x$; leading coefficient -2 .
 - B. $3x + 5x^2 - 2$; leading coefficient 3.
 - C. $5x^2 + 3x - 2$; leading coefficient 5.
 - D. $5x^2 + 3x + 2$; leading coefficient 5.

8. Write $8y + 7y^3$ in standard form. Identify the leading coefficient.
- A. $7y^3 - 8y$; leading coefficient 7.
 - B. $8y + 7y^3$; leading coefficient 8.
 - C. $7y^3 + 8y$; leading coefficient 7.
 - D. $7y^2 + 8y$; leading coefficient 7.
9. Write $4 - 3c - 5c^2$ in standard form. Identify the leading coefficient.
- A. $-5c^2 - 3c + 4$; leading coefficient -5 .
 - B. $5c^2 - 3c + 4$; leading coefficient 5.
 - C. $-5c^2 + 3c + 4$; leading coefficient -5 .
 - D. $-3c - 5c^2 + 4$; leading coefficient -3 .
10. Write $-y^3 + 3y - 3y^2 + 2$ in standard form. Identify the leading coefficient.
- A. $-y^3 + 3y^2 + 3y + 2$; leading coefficient -1 .
 - B. $-3y^2 - y^3 + 3y + 2$; leading coefficient -3 .
 - C. $y^3 - 3y^2 + 3y + 2$; leading coefficient 1.
 - D. $-y^3 - 3y^2 + 3y + 2$; leading coefficient -1 .
11. Write $11t + 2t^2 - 3 + t^5$ in standard form. Identify the leading coefficient.
- A. $2t^2 + t^5 + 11t - 3$; leading coefficient 2.
 - B. $t^5 + 2t^2 + 11t - 3$; leading coefficient 1.
 - C. $t^5 + 11t + 2t^2 - 3$; leading coefficient 11.
 - D. $t^5 + 2t^2 + 11t + 3$; leading coefficient 1.
12. Write $2 + r - r^3$ in standard form. Identify the leading coefficient.
- A. $-r^3 - r + 2$; leading coefficient -1 .
 - B. $-r^3 + r + 2$; leading coefficient -1 .
 - C. $r^3 - r + 2$; leading coefficient 1.
 - D. $r^3 + r + 2$; leading coefficient 1.
13. Write $\frac{1}{2}x - 3x^4 + 7$ in standard form. Identify the leading coefficient.
- A. $3x^4 + \frac{1}{2}x + 7$; leading coefficient 3.
 - B. $-3x^4 + \frac{1}{2}x + 7$; leading coefficient -3 .
 - C. $-3x^4 - \frac{1}{2}x + 7$; leading coefficient -3 .
 - D. $-3x^4 + 7 + \frac{1}{2}x$; leading coefficient $\frac{1}{2}$.
14. Write $-9b^2 + 10b - b^6$ in standard form. Identify the leading coefficient.
- A. $b^6 - 9b^2 + 10b$; leading coefficient 1.
 - B. $-b^6 - 9b^2 + 10b$; leading coefficient -1 .
 - C. $-b^6 - 9b^2 - 10b$; leading coefficient -1 .
 - D. $-9b^2 + 10b - b^6$; leading coefficient -9 .

Part C — Adding & Subtracting Polynomials

15. Find $(2x + 3y) + (4x + 9y)$.
- A. $2x + 12y$
 - B. $6x + 9y$
 - C. $6x + 12y$
 - D. $6x + 6y$
16. Find $(6s + 5t) + (4t + 8s)$.
- A. $8s + 9t$
 - B. $14s + 9t$
 - C. $2s + 9t$
 - D. $14s + t$

17. Find $(5a + 9b) - (2a + 4b)$.

- A. $3a + 5b$
- B. $7a + 5b$
- C. $7a + 13b$
- D. $3a + 13b$

18. Find $(11m - 7n) - (2m + 6n)$.

- A. $9m - 13n$
- B. $13m - 13n$
- C. $13m - n$
- D. $9m - n$

19. Find $(m^2 - m) + (2m + m^2)$.

- A. $m^2 + m$
- B. $2m^2 - m$
- C. $2m^2 + m$
- D. $2m^2 + 3m$

20. Find $(x^2 - 3x) - (2x^2 + 5x)$.

- A. $-x^2 + 2x$
- B. $3x^2 + 2x$
- C. $-x^2 - 8x$
- D. $x^2 - 8x$

21. Find $(d^2 - d + 5) - (2d + 5)$.

- A. $d^2 - 3d + 10$
- B. $d^2 - 3d$
- C. $-d^2 - 3d$
- D. $d^2 + d$

22. Find $(2h^2 - 5h) + (7h - 3h^2)$.

- A. $5h^2 + 2h$
- B. $-h^2 + 2h$
- C. $-h^2 - 12h$
- D. $-h^2 + 12h$

23. Find $(5f + g - 2) + (-2f + 3)$.

- A. $7f + g + 1$
- B. $3f + g + 1$
- C. $3f + g - 5$
- D. $3f - g + 1$

24. Find $(6k^2 + 2k + 9) + (4k^2 - 5k)$.

- A. $2k^2 - 3k + 9$
- B. $10k^2 - 3k + 9$
- C. $10k^2 - 3k - 9$
- D. $10k^2 + 7k + 9$

25. Find $(2c^2 + 6c + 4) + (5c^2 - 7)$.

- A. $7c^2 + 6c + 11$
- B. $7c^2 + 6c - 3$
- C. $7c^2 - 6c - 3$
- D. $3c^2 + 6c - 3$

26. Find $(2x + 3x^2) - (7 - 8x^2)$.
- A. $11x^2 + 2x - 7$
 - B. $11x^2 + 2x + 7$
 - C. $-5x^2 + 2x - 7$
 - D. $5x^2 + 2x - 7$
27. Find $(3c^3 - c + 11) - (c^2 + 2c + 8)$.
- A. $3c^3 + c^2 - 3c + 3$
 - B. $3c^3 + c^2 + c + 19$
 - C. $3c^3 - c^2 - 3c + 19$
 - D. $3c^3 - c^2 - 3c + 3$
28. Find $(z^2 + z) + (z^2 - 11)$.
- A. $z^2 + z - 11$
 - B. $2z^2 - z - 11$
 - C. $2z^2 + z - 11$
 - D. $2z^2 + z + 11$
29. Find $(2x - 2y + 1) - (3y + 4x)$.
- A. $-2x - 5y + 1$
 - B. $6x + y + 1$
 - C. $6x - 5y + 1$
 - D. $-2x + y + 1$
30. Find $(4a - 5b^2 + 3) + (6 - 2a + 3b^2)$.
- A. $6a - 2b^2 + 9$
 - B. $2a - 8b^2 + 9$
 - C. $2a - 2b^2 - 3$
 - D. $2a - 2b^2 + 9$
31. Find $(x^2y - 3x^2 + y) + (3y - 2x^2y)$.
- A. $-x^2y - 3x^2 + 4y$
 - B. $-x^2y - 3x^2 - 2y$
 - C. $x^2y - 3x^2 + 4y$
 - D. $-x^2y + 3x^2 + 4y$
32. Find $(-8xy + 3x^2 - 5y) + (4x^2 - 2y + 6xy)$.
- A. $7x^2 + 2xy - 7y$
 - B. $7x^2 - 14xy - 7y$
 - C. $x^2 - 2xy - 3y$
 - D. $7x^2 - 2xy - 7y$
33. Find $(5n - 2p^2 + 2np) - (4p^2 + 4n)$.
- A. $-6p^2 + 2np + n$
 - B. $6p^2 + 2np + n$
 - C. $-6p^2 + 2np + 9n$
 - D. $-2p^2 + 2np + n$
34. Find $(4rxt - 8r^2x + x^2) - (6rx^2 + 5rxt - 2x^2)$.
- A. $-rxt - 8r^2x - 6rx^2 + 3x^2$
 - B. $9rxt - 8r^2x - x^2$
 - C. $-rxt + 8r^2x - 6rx^2 + 3x^2$
 - D. $-rxt - 8r^2x + 3x^2$

Part D — Applications

35(a). Company A and Company B both started their businesses in the same year. Company A's profit P , in millions, is $P = 3.2x + 12$, where x is the number of years in business. Company B's profit P , in millions, is $P = 2.7x + 10$. Write a polynomial equation for the difference in profit D after x years.

- A. $D = 5.9x + 22$
- B. $D = 3.2x - 2.7$
- C. $D = 0.5x + 2$
- D. $D = 0.5x - 2$

35(b). Using the company profit models above, predict the difference in profit after 10 years.

- A. \$7 million
- B. \$5 million
- C. \$2 million
- D. \$25 million

36(a). An office supply company produces yellow document envelopes. The length is always 4 centimeters more than double the width x . Write a polynomial equation for the perimeter P of any envelope.

- A. $P = 4x + 8$
- B. $P = 6x + 8$
- C. $P = 6x + 4$
- D. $P = 2x + 4$

36(b). Using the envelope model above, predict the perimeter of an envelope with a width of 6 centimeters.

- A. 48 cm
- B. 40 cm
- C. 44 cm
- D. 56 cm