TB(1A) Ch.6 Manipulations of Polynomials
Multiple Choice Questions

1. **[16-17 Mid-year Exam, #12]**

Simplify $-2a + \left(\dfrac{6a^2}{5}\right) \div \left(\dfrac{-12a}{5b}\right) + 3ab$.

A. $-2a + \dfrac{7ab}{2}$

B. $-2a + \dfrac{5ab}{2}$

C. $-2a - \dfrac{5ab}{2}$

D. $-2a - \dfrac{7ab}{2}$

2. **[16-17 Mid-year Exam, #13]**

Find the number of terms after expanding $12xy - (3x + 2y)^2$.

A. 2 B. 3
C. 4 D. 5

3. **[16-17 Mid-year Exam, #17]**

Consider the polynomial $2a^2b + 4abc - 5a^2b^2c$. Which of the following is true?

	Degree	Coefficient of a^2b^2
A.	5	−5
B.	5	0
C.	3	4
D.	3	2

4. **[16-17 Mid-year Exam, #18]**

$3 \times \left(-48x^6y^8 \div 8x^2y^2\right) =$

A. $-6x^3y^4$.

B. $-18x^3y^4$.

C. $-6x^4y^6$.

D. $-18x^4y^6$.

5. **[16-17 Mid-year Exam, #19]**

Factorize $10x - 14y + 21sy - 15sx - 20tx + 28ty$.

A. $(2 - 3s - 4t)(5x - 7y)$

B. $(2 - 3s + 4t)(5x + 7y)$

C. $(2 + 3s - 4t)(5x + 7y)$

D. $(2 - 3s + 4t)(5x - 7y)$

6.　　　**[16-17 Final Exam, #7]**

Consider the polynomial $-x^2y + 2x - 1$. Which of the following is correct?

	Degree of the polynomial	Coefficient of x^3
A.	2	-1
B.	2	0
C.	3	0
D.	3	-1

7.　　　**[16-17 Final Exam, #12]**

$4a(a^2 + 2a - 3) - (2a + 1)(3a - 2) =$

A.　$4a^3 + 2a^2 - 13a + 2$.

B.　$4a^3 + 2a^2 - 11a + 2$.

C.　$4a^3 + 2a^2 + 11a - 2$.

D.　$4a^3 + 14a^2 - 13a - 2$.

8.　　　**[16-17 Final Exam, #13]**

$(x+1)(1-x) + x - 1 =$

A.　$x(1-x)$.

B.　$x(x-1)$.

C.　$(1+x)(1-x)$.

D.　$-x^2 + x + 1$.

9.　**[17-18 S. Test #8]**

Which of the following are incorrect?

I.　$(a^2)^3 = a^5$

II.　$(ab)(ab) = ab^2$

III.　$(ab) \div (-ab) = 0$

A. I and II only　　**B.** I and III only

C. II and III only　**D.** I, II and III

10.　　　**[17-18 S. Test #10]**

$-a - a \times a - a =$

A. 0

B. $-2a$

C. $-2a^2 - a$

D. $-2a - a^2$

11. [17-18 Mid-year Exam, #7]

What is the degree of polynomial $9a^3 + 8a^2b^2 - 7a^2 + 6$?

A. 3
B. 4
C. 6
D. 9

12. [17-18 Mid-year Exam, #8]

$3^n \times 3^n =$

A. 3^{2n}.
B. 6^n.
C. 6^{2n}.
D. 9^{2n}.

13. [17-18 Mid-year Exam, #9]

Find the value of the polynomial $x^2 + 2xy + y^2$ when $x = -1$ and $y = 3$.

A. -2
B. 0
C. 4
D. 16

14. [17-18 Mid-year Exam, #14]

Which of the following are like terms?

I. a^2b

II. $4ab^2$

III. $\dfrac{a^2b}{4}$

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

15. [17-18 Mid-year Exam, #15]

The coefficient of the xy term in the expansion $(x + y)(2y - x)$ is

A. -3.
B. 0.
C. 1.
D. 2.

16. [17-18 Mid-year Exam, #1]

$7^2 \div 7^n =$

A. 7^{2-n}.   B. 7^{2n}.
C. 49^{2-n}.   D. 49^{2+n}.

17. [17-18 Mid-year Exam, #13]

For $a^3bc^2 + 2a^3 - \dfrac{2ab}{3} - 6$, which of the following is true?

    A. It is a monomial.
    B. The constant term is 6.
    C. The coefficient of ab is -2.
    D. The degree of the polynomial is 6.

18. [18-19 S. Test #9]

If $\dfrac{x^m \cdot x^3}{x^n} = x^7$, which of the following is/are possible values of m and n?

    I. $m = 8$ and $n = 2$

    II. $m = 11$ and $n = 7$

    III. $m = 14$ and $n = 6$

    A. I only
    B. II only
    C. II and III only
    D. I, II and III

19. [18-19 Mid-year Exam, #7]
Which of the following is a monomial?

    A. x^5
    B. 5^x
    C. $\dfrac{5}{x}$
    D. $5 + x$

20. [18-19 Mid-year Exam, #8]
Which of the following is a pair of like terms?

    A. xy^2 and yx^2
    B. $2x$ and $\dfrac{x}{2}$
    C. $2x$ and x^2
    D. $2x$ and $\dfrac{2}{x}$

21. [18-19 Mid-year Exam, #15]
Consider the polynomial $6x^4 - 2x^3$. Which of the following are true?

I.   The degree of the polynomial is 4.
II. The coefficient of x^3 is 2.
III. The constant term is 0.

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

22. [18-19 Mid-year Exam, #20]
$(x-1)^2 + (x+1) =$

A. $x^2 - x$.
B. $x^2 + x$.
C. $x^2 - x - 1$.
D. $x^2 - x + 2$.

23. [18-19 Final Exam, #15]
After expanding $(3x^2 - 2y + 1)(7x - 9y)$, which of the following are true for the polynomial obtained?
I.   Degree of the polynomial is 3.
II.   Coefficient of $x^2 y$ is 27.
III. Constant term is 0.

A.   I and II only
B.   I and III only
C.   II and III only
D.   I, II and III

24. [19-20 Standardized test 1, #6]
Consider the polynomial $4x^2 + x^3 y - 7y$. Which of the following is/are true?

I.   The constant term is −7.

II. The degree of the polynomial is 3.

III. The coefficient of the x^2 term is 4.

A. I only   B.   III only

C. I and II only   D.   II and III only

25. **[19-20 Standardized test 1, #7]**

Find the value of the polynomial $2x^3 - 3x^2y + 4xy^2$ when $x = -2$ and $y = 1$.

   A. −36   **B.** −20

   C. −12   **D.** 12

26. **[20-21 Mid-year, #3]**

Find the number of terms and the constant term of $-7x^2 + 6xy - 5 + 2y - 4y^2$.

	Number of terms	Constant term
A.	4	5
B.	4	−5
C.	5	5
D.	5	−5

27. **[20-21 Mid-year, #4]**

Consider the polynomial $-8x^2 + 6xy^3 - 7 - 5x^3$. Which of the following is correct?

	Degree of polynomials	Coefficient of x^3
A.	4	−5
B.	9	−5
C.	4	5
D.	9	5

28. **[20-21 Mid-year, #10]**

Expand $(x+1)^2(-5+2x)$.

   A. $2x^3 - x^2 - 8x - 5$

   B. $2x^3 - x^2 - 8x + 5$

   C. $2x^3 - 5x^2 + 2x - 5$

   D. $2x^3 - 5x^2 + 2x + 5$

29. **[20-21 Mid-year, #11]**

Simplify $\dfrac{8^n \times 4^{n+2}}{2^n \times 2^{3n-4}}$, where n is a positive integer.

   A. 2^n

   B. 2^{n+2}

   C. 2^{n+4}

   D. 2^{n+8}

30.   **[20-21 Final Exam, #2]**
      Which of the following polynomials has a degree of 5?

   A. $x^4 - 5$

   B. $2 - 3x^2 y^2 + 6y$

   C. $x^3 y + xy^2 - 7$

   D. $x^2 y^3 - 6xy + 2x$

31.   **[20-21 Final Exam, #23]**
      Simplify $\dfrac{9^{2n}}{27^n}$, where n is a positive integer.

   A. 3^n

   B. $\dfrac{1}{3^n}$

   C. $3n$

   D. $\dfrac{n}{3}$

32.   **[16-17 Mid-year Exam, #16]**
      Consider the polynomial $-2t^3 - t^2 + 7$. Find the value of the polynomial when $t = -\dfrac{1}{2}$.

   A. $\dfrac{77}{12}$ B. $\dfrac{13}{2}$

   C.   7   D. $\dfrac{15}{2}$

33. **[19-20 Mid-year, #8]**

What is the degree of the polynomial $-3a^2 b^3 + \dfrac{1}{2} ab^5 + a^4$?

   A. 4   B. 5
   C. 6   D. 15

34. **[19-20 Mid-year, #11]**
      Simplify $x^3(-3x^3 y)^2$.
   A. $-9x^8 y^2$ B. $-3x^9 y^2$
   C. $3x^8 y^2$ D. $9x^9 y^2$

35. [19-20 Mid-year, #14]

Find the coefficient of n in the expression $-3\left(\dfrac{6m+10n}{4}\right)$.

    A. $\dfrac{15}{2}$ **B.** $-\dfrac{15}{2}$

    C. $\dfrac{5}{2}$ **D.** $-\dfrac{5}{2}$

36. [19-20 Mid-year, #15]

Expand $(a-2b)(3b^2+4-2a)$.

    A. $-2a^2+4a+4ab-8b+3ab^2-6b^3$

    B. $-2a^2+4a-4ab+8b+3ab^2-6b^3$

    C. $2a+4ab-8b+3ab^2-6b^3$

    D. $6a-4ab+8b+3ab^2-6b^3$

37. [19-20 Mid-year, #16]

Expand $-(3u-4)^2$.

    A. $-9u^2-16$ **B.** $-9u^2+24u-16$

    C. $9u^2-16$ **D.** $9u^2-24u+16$

~ End ~