

TB(3A) Ch. 1 More about Factorization of Polynomials
Multiple Choice Questions

1. [13 - 14 S.2 S.Test 1 #1]

Which of the following is an identity?

- A. $49x^2 - 16 = (7x - 4)^2$
- B. $5x^2 + 9 = (5x + 3)(5x - 3)$
- C. $(6x + 4)^2 = 36x^2 + 48x + 16$
- D. $27x^3 + 125 = (3x + 5)(9x^2 + 15x + 5)$

2. [13 - 14 S.2 S.Test 1 #5]

Factorize $64a^4 - a$.

- A. $a(64a^3 - 1)$
- B. $a(4a - 1)(16a^2 + 4a + 1)$
- C. $a(4a - 1)(16a^2 - 4a + 1)$
- D. $a(4a - 1)(16a^2 + 8a + 1)$

3. [13 – 14 Mid-year Exam #10]

Factorize $x^2 + 2xy - 15y^2$.

- A. $(x - 5)(x + 3)$
- B. $(x + 5)(x - 3)$
- C. $(x - 5y)(x + 3y)$
- D. $(x + 5y)(x - 3y)$

4. [13 – 14 Mid-year Exam #11]

Factorize $5x^3 - 135$.

- A. $(x - 3)(x^2 + 6x + 9)$
- B. $5(x - 3)(x^2 + 3x + 9)$
- C. $5(x - 3)(x^2 + 3x - 9)$
- D. $5(x - 3)(x^2 + 6x + 9)$

5. [13 – 14 Mid-year Exam #14]

Which of the following is/are the factor(s) of $-x^4 + 2x^2 + 3$?

- I. $x^2 + 1$
- II. $3 - x^2$
- III. $x^2 - 1$

- A. I only
- B. I and II only
- C. II and III only
- D. All of the above

6. [14 – 15 Mid-year Exam]

Factorize $11y^2 - 13y + 2$.

- A. $(11y + 2)(y + 1)$
- B. $(11y + 2)(y - 1)$
- C. $(11y - 2)(y + 1)$
- D. $(11y - 2)(y - 1)$

7. [14 – 15 Mid-year Exam]

Which of the following is/are correct?

- I. $a^2 - b^2 = (a - b)(a + b)$
 - II. $27a^3 + 8b^3 = (3a + 2b)(9a^2 + 6ab + 4b^2)$
 - III. $a^3 - b^3 = (a - b)^3$
- A. I only
 - B. II only
 - C. I and II only
 - D. II and III only

8. [14 – 15 Mid-year Exam]

Factorize $(x + 1)^3 - (x - 1)^3$.

- A. $8x$
- B. $8x^2$
- C. $2(3x^2 + 1)$
- D. $2(3x^2 + 3)$

9. [14 - 15 S.2 Final Exam #1]

Factorize $4a^2 + 4a - 15$.

- A. $(2a + 5)(2a - 3)$
- B. $(2a - 5)(2a + 3)$
- C. $(4a + 5)(a - 3)$
- D. $(4a - 5)(a + 3)$

10. [14 - 15 S.2 Final Exam #17]

$-250 + 2m^3 =$

- A. $2(-5 + m)(25 - 5m + m^2)$.
- B. $2(-5 + m)(25 + 5m + m^2)$.
- C. $-2(5 + m)(25 - 5m + m^2)$.
- D. $-2(5 + m)(25 + 5m + m^2)$.

11. [15-16 Mid-year Exam #3]

Factorize $-x^2 + 10x - 25$.

- A. $-(x-5)^2$
- B. $-(x+5)^2$
- C. $(x-5)^2$
- D. $(x+5)^2$

12. [15-16 Mid-year Exam #4]

Factorize $3x^2 - xy - 10y^2$.

- A. $(x-2)(x+\frac{5}{3})$
- B. $(x-2)(x+\frac{5y}{3})$
- C. $(x-2)(3x+5)$
- D. $(x-2y)(3x+5y)$

13. [15-16 Mid-year Exam #5]

Factorize $27x^3 - 125y^3$.

- A. $(3x-5y)^3$
- B. $(3x+5y)^3$
- C. $(3x-5y)(9x^2 + 15xy + 25y^2)$
- D. $(3x-5y)(9x^2 + 30xy + 25y^2)$

14. [15-16 Mid-year Exam #11]

Factorize $(x-y)^3 - (y-x)^2$.

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

15. [15-16 Mid-year Exam #12]

Factorize $(x^2 - 1)^3 + (x^2 + 1)^3$.

- A. $6x^6$
- B. $8x^6$
- C. $2x^2(x^4 + 3)$
- D. $2x^2(3x^4 + 1)$

16. [15-16 Final Exam, #3]

Factorize $16x^3 - 2y^3$.

- A. $2(2x - y)(4x^2 + 4xy + y^2)$
- B. $2(2x + y)(4x^2 - 4xy + y^2)$
- C. $2(2x + y)(4x^2 + 2xy + y^2)$
- D. $2(2x - y)(4x^2 + 2xy + y^2)$

17. [15-16 Final Exam, #16]

Which of the following are factors of $x^6 - 64$?

- I. $x - 2$
 - II. $x^3 + 8$
 - III. $x^2 - 4x + 4$
 - IV. $x^4 + 4x^2 + 16$
- A. I and II only
 - B. II and III only
 - C. I, II and III only
 - D. I, II and IV only

18. [16-17 S2 Mid-Year Exam, #4]

Factorize $-5x^2 - 11xy + 12y^2$.

- A. $(-x + 6y)(5x + 2y)$
- B. $(x + y)(-5x + 12y)$
- C. $(x + 3y)(-5x + 4y)$
- D. $(x + 4y)(-5x + 3y)$

19. [16-17 S2 Mid-Year Exam, #14]

Factorize $3a^2 - 12a^4$ completely.

- A. $3a^2(1 - 2a)^2$
- B. $3a^2(1 - 2a^2)^2$
- C. $3a^2(1 + 2a)(1 - 2a)$
- D. $3a^2(1 + 2a^2)(1 - 2a^2)$

20. [16-17 S2 Mid-Year Exam, #15]

Factorize $ab - bc - b^2 + ac$.

- A. $(a - b)(b - c)$
- B. $(a - b)(b + c)$
- C. $(a + b)(b - c)$
- D. $(a + b)(b + c)$

21. [16-17 S2 Mid-Year Exam, #16]

Which of the following have $3x - 4$ as a factor?

- I. $6x^2 - 23x + 20$
- II. $9x^2 + 16$
- III. $27x^3 - 64$

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

22. [16-17 S2 Final Exam, #13]

Factorize $3p^2 - 7pq + 4q^2 - 8q + 6p$.

- A. $(p - q - 2)(3p - 4q)$
- B. $(p - q + 2)(3p - 4q)$
- C. $(p + q - 2)(3p + 4q)$
- D. $(p + q + 2)(3p + 4q)$

23. [17-18 S3 Mid-year Exam, #1]

Factorize $12a^2 - 7a - 12$.

- A. $(3a + 4)(4a - 3)$
- B. $(3a - 4)(4a + 3)$
- C. $(3a - 4)(4a - 3)$
- D. $(3a + 4)(4a + 3)$

24. [17-18 S3 Mid-year Exam, #12]

$256 + 4m^3 =$

- A. $4(4 + m)^3$.
- B. $4(4 + m)(16 - 4m + m^2)$.
- C. $4(8 + m)(64 + 8m + m^2)$.
- D. $4(8 + m)(64 - 8m + m^2)$.

25. [17-18 S3 Final Exam, #1]

Factorize $54a^3 - 2b^3$.

- A. $2(3a - b)(9a^2 + 3ab + b^2)$
- B. $2(3a - b)(9a^2 - 3ab + b^2)$
- C. $2(3a + b)(9a^2 + 3ab + b^2)$
- D. $2(3a + b)(9a^2 - 3ab + b^2)$

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