

TB(2A) Ch. 4 Factorization of Polynomials
Conventional Questions

1. [16-17 S.2 Mid-year Exam #5]

- (a) Factorize (i) $16 - 8x + x^2$, (1 mark)
(ii) $16 - x^2$. (1 mark)
- (b) Hence, factorize $2(16 - 8x + x^2) - 3(16 - x^2)$. (3 marks)

2. [17-18 S.2 Mid Year Exam #6]

Factorize

- (a) $2a^2 - 50b^2$, (1 mark)
(b) $2a^2 - 50b^2 - 3a - 15b$. (2 marks)

3. [17-18 S.2 S.Test #3]

Factorize

- (a) $x^2 - 4x + 4$. (1 mark)
(b) $x^2 - 4x + 4 - 26y + 13xy$. (2 marks)

4. [17-18 S.2 S.Test #4]

- (a) Prove that $(2x - 5)^2 - (x - 6)^2 = (3x - 11)(x + 1)$ is an identity. (2 marks)
(b) Factorize $(2x - 5)^2 - (x - 6)^2 + (3x - 11)(x + 1)^2$. (2 marks)

5. [17-18 S.2 Final Exam #8]

- (a) If $(x + A)(2x - 3) \equiv 2x^2 - 11x + B$, where A and B are constants, find the values of A and B . (2 marks)
(b) By using the results of (a), factorize $2x^2 - 11x + B + (2x - 1)(x - 4)$. (2 marks)

6. [18-19 S.2 S.Test 1 #6]Factorize $m^2 - 9n^2 + 2m + 6n$. (3 marks)

7. [18-19 S.2 Mid-year #10]

(a) Factorize the following expressions.

(i) $4a^2 + 12ab + 9b^2$

(ii) $2ax - 8ay + 3bx - 12by$

(3 marks)

(b) Simplify $x - \frac{2ax - 8ay + 3bx - 12by}{4a^2 + 12ab + 9b^2} \div \frac{1}{2a + 3b}$.

(2 marks)

8. [18-19 S.2 Mid-year #13]

Factorize $25x^4 - (x^2 - 8xy + 16y^2)(x^2 + 8xy + 16y^2)$.

(3 marks)

9. [19-20 S.2 Standardized test 1, #1]

Factorize

(a) $21a + 6b - 3c$,

(1 mark)

(b) $2c - cd + 2e - de$.

(2 marks)

10. [19-20 S.2 Standardized test 1, #9]

Factorize $(x + 1)^4 - (x - 1)^4$.

(2 marks)

11. [19-20 Mid-year exam, #6]

Factorize

(a) $9x^2 - 24xy + 16y^2$,

(1 mark)

(b) $9x^2 - 24xy + 16y^2 + 6x - 8y$.

(2 marks)

12. [20-21 Mid-year exam, #3]

Factorize

(a) $a^2 - 6ab + 9b^2$,

(1 mark)

(b) $a^2 - 6ab + 9b^2 - 4ac + 12bc$.

(2 marks)

13. [20-21 Final exam, #16]

(a) Prove that $(2x - y)^2 - x(2y - 5x) = (3x - y)^2$ is an identity.

(3 marks)

(b) Hence, or otherwise, factorize $(2x - y)^2 - x(2y - 5x) - 6x + 2y$.

(2 marks)

14. [16-17 S.2 Final Exam #2]

(a) Factorize $x^2 - x - 2$.

(1 mark)

(b) Simplify $\frac{(x-1)^2}{x(x+1)} \times \frac{x}{x-1}$.

(1 mark)

(c) Simplify $\frac{x+1}{x-1} - \frac{x-1}{x+1}$.

(2 marks)

15. [17-18 S.3 S Test 2 #2]

(a) Factorize $2a^2 - 5a - 3$.

(1 mark)

(b) Factorize $2a^2 - 5a - 3 - b^2a + 3b^2$.

(1 mark)**16. [17-18 S3 Final Exam, 1]**

(a) Factorize $6x^2 + 11x - 7$.

(1 mark)

(b) Factorize $8x^3 + 6x^2 + 11x - 8$.

(1 mark)**17. [17-18 S4 Final Exam, 2]**

Factorize

(a) $p^2 + p - 12$,

(b) $p^2 + p - 12 - qp + 3q$.

(3 marks)**18. [18-19 S3 Final, 1]**

Factorize

(a) $x^2 - 14x + 24$,

(1 mark)

(b) $x^2 - 14x + 24 + xy - 2y$.

(2 marks)**19. [19-20 Standardized test 1, #1]**

Factorize the following expressions.

(a) $14x^2 + 3x - 2$

(1 mark)

(b) $2x^2 - 10x + 12$

(2 marks)**20. [20-21 Mid-year, #1]**

Factorize

(a) $x^2 - 13x - 30$,

(1 mark)

(b) $x^2 - 13x - 30 - xy + 15y$.

(2 marks)**21. [20-21 Final Exam, #1]**

Factorize

(a) $18y^2 + 50y - 12$,

(1 mark)

(b) $(x - 2)(3x + 4) + 3$.

(2 marks)**~ End ~**