

**TB(2A) Ch. 2 Identities & Factorization****Multiple Choice Questions****1. [13-14 F.2 S.Test 1 #2]**Factorize  $10m - 8n + 5m^2 - 4mn$ .

- A.  $(5m - 4n)(2 + m)$
- B.  $(5m - 4n)(2 - m)$
- C.  $(4n - 5m)(2 - m)$
- D.  $(5m + 4n)(2 + m)$

**2. [13-14 F.2 S.Test 1 #6]**Factorize  $2(y - 1)^2 - 6(1 - y)$ .

- A.  $2(y - 1)(y + 2)$
- B.  $2(y - 1)(y + 4)$
- C.  $2(y - 1)(y - 7)$
- D.  $2(1 - y)(y - 4)$

**3. [13-14 F.2 S.Test 1 #7]**Which of the following is/are a factor/factors of  $5x^4 - 80$ ?

- I.  $x - 2$
- II.  $x^2 + 4$
- III.  $5x + 10$

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

**4. [13-14 F.2 S.Test 1 #8]**If  $a + b = 8$  and  $a^2 + b^2 = 16$ , then  $ab =$ 

- A. 12.
- B. 15.
- C. 24.
- D. 48.

**5. [13-14 Mid-year Exam #8]** $(-2x + 4y)^2 =$ 

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

**6. [13-14 Mid-year Exam #13]**Factorize  $ax^2 - by + bx - ay^2$ .

- A.  $(x - y)(ax + ay + b)$
- B.  $(x - y)(ax + ay - b)$
- C.  $(x + y)(ax + ay - b)$
- D. Cannot be factorized

**7. [14-15 Mid-year Exam]**

Which of the following is an identity?

- A.  $a^2 + b^2 = (a + b)^2$
- B.  $(a - b)^2 = -(b - a)^2$
- C.  $(3a + 6b)^2 = 3(a + 2b)^2$
- D.  $(a + 2b)^2 - (a - 2b)^2 = 8ab$

**8. [14-15 Mid-year Exam]**Expand  $(p + 2q)^2 - 4p^2$ .

- A.  $-3p^2 + 4pq + 4q^2$
- B.  $-15p^2 + 4pq + 4q^2$
- C.  $(3p + 2q)(-p + 2q)$
- D.  $(5p + 2q)(-3p + 2q)$

**9. [14-15 Mid-year Exam]**Factorize  $9a^2 + 6ab + b^2 - (a - b)^2$ .

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

**10. [14-15 Mid-year Exam]**Factorize  $\frac{3x^2}{16} - 12y^2 + \frac{9x}{4} - 18y$ .

- A.  $\frac{-3xy}{2} \left( \frac{x}{4} + 3 \right) (2y + 3)$
- B.  $-6xy(x + 12)(2y + 3)$
- C.  $3(x - 2y)(x + 2y + 6)$
- D.  $\frac{3}{16}(x - 8y)(x + 8y + 12)$

**11. [14-15 S.6 Mock Exam #2]**

If  $a$ ,  $b$  and  $c$  are non-zero constants such that  $(ax + b)(5x + 1) \equiv 10x^2 + cx - 1$ , then  $c =$

- A.  $-7$ .
- B.  $-3$ .
- C.  $3$ .
- D.  $7$ .

**12. [14-15 Final Exam #2]**

$$(a - b)^2 + (b - a)^2 =$$

- A.  $0$ .
- B.  $(a - b)^2$ .
- C.  $2(b - a)^2$ .
- D.  $(2a - b)^2$ .

**13. [15-16 S2 Mid-year Exam #15]**

Which of the following is correct?

- I.  $\frac{y}{x} - 1 \equiv -\frac{x - y}{x}$
- II.  $\frac{2x + y}{2x} \equiv 1 + y$
- III.  $\frac{x + y}{x - y} \equiv \frac{x}{x - y} - \frac{y}{y - x}$

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

**14. [15-16 S2 Mid-year Exam #18]**

If  $ab = 5$  and  $a - b = 4$ , find the value of  $a^2 + b^2$ .

- A.  $6$
- B.  $16$
- C.  $26$
- D. Cannot be determined

**15. [16 - 17 F.2 Mid-year Exam #2]**

Which of the following is an identity?

A.  $x + 1 = 2$

B.  $(x + 1)^2 = x^2 - 2x + 1$

C.  $(x + 1)(x - 1) = x^2 - 1$

D.  $2(x - 1)^2 = 2x^2 + 4x + 2$

**16. [16 - 17 F.2 Mid-year Exam #3]**

$$a^2 + b^2 - (a + b)^2 =$$

A.  $-2ab$ .

B.  $-ab$ .

C. 0.

D.  $2ab$ .

**17. [16 - 17 F.2 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.  $3a^2(1 + 2a^2)(1 - 2a^2)$

**18. [16 - 17 F.2 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.  $(a + b)(b + c)$

**19. [16 - 17 F.2 Final Exam #2]**

Which of the following is an identity?

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

**20. [17 - 18 F.2 Mid Year Exam #3]**

Which of the following are wrong?

- I.  $(a - b)^2 \equiv -(b - a)^2$
- II.  $(a - b)^2 \equiv (b - a)^2$
- III.  $(a - b)^2 \equiv a^2 - b^2$

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

**21. [17 - 18 F.2 Mid Year Exam #4]**

Factorize  $ac - bd + ad - bc$ .

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

**22. [17 - 18 F.2 Mid Year Exam #7]**

$(2x + 1)^2 - (2x - 1)^2 =$

- A.  $-8x$ .
- B.  $-4x$ .
- C.  $4x$ .
- D.  $8x$ .

**23. [17 - 18 F.2 Mid Year Exam #12]**

Factorize  $x^3 - 2x^2 + 2x - 4$ .

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

**24. [17 - 18 F.2 S Test 1 #1]**

Which of the following is an identity / are identities?

- I.  $8x + 1 = x$
  - II.  $5(x - 6) = 2(x + 1) - (32 - 3x)$
  - III.  $(1 - x)^2 = (x - 1)^2$
- A. II only  
B. III only  
C. I and II only  
D. II and III only

**25. [17 - 18 F.2 S Test 1 #2]**

Expand  $\left(7 - \frac{5x}{2}\right)^2$ .

- A.  $49 - \frac{5x^2}{4}$   
B.  $49 - \frac{25x^2}{4}$   
C.  $49 - \frac{35x}{2} + \frac{5x^2}{4}$   
D.  $49 - 35x + \frac{25x^2}{4}$

**26. [17 - 18 F.2 S Test 1 #3]**

Factorize  $26 - 13y - 2x + xy$ .

- A.  $(13 - x)(2 - y)$   
B.  $(13 - x)(2 + y)$   
C.  $(x - 13)(2 - y)$   
D.  $(x - 13)(2 + y)$

**27. [17 - 18 F.2 S Test 1 #10]**

If  $A$ ,  $B$  and  $C$  are constants such that  $(3A - B)x^2 + (B - C)x + C \equiv 9(2x - 1) - (x - 3)(2x - 5)$ , then

$B =$

- A. 5.  
B. 1.  
C. -5.  
D. -24.

**28. [17 - 18 F.2 Final Exam #1]**

Which of the following is/are identities?

I.  $(x - 1)^2 = (1 - x)^2$

II.  $x - 1 = 1 - x$

III.  $(x + 1)^2 = x^2 + 1$

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

**29. [17 - 18 F.2 Final Exam #11]**

Factorize  $1 - (x^2 - 2xy + y^2)$ .

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