TB(2A) Ch. 3 Identities
Multiple Choice Questions

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

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

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

    A. $-2ab$.
    B. $-ab$.
    C. 0.
    D. $2ab$.

3. [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. $(a-2)^2 = (2-a)^2$

4. [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

5. **[17 - 18 F.2 Mid Year Exam #7]**

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

    A. $-8x$.   **B.** $-4x$.

    C. $4x$.   **D.** $8x$.

6. **[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

7. **[17 - 18 F.2 S Test 1 #2]**

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

    A. $49 - \dfrac{5x^2}{4}$

    B. $49 - \dfrac{25x^2}{4}$

    C. $49 - \dfrac{35x}{2} + \dfrac{5x^2}{4}$

    D. $49 - 35x + \dfrac{25x^2}{4}$

8. **[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.

9. **[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

10. **[18 - 19 F.2 S Test #3]**
    Which of the following is **NOT** an identity?
    A. $7(x+2) - 3 = 7x + 11$
    B. $(x-9)^2 = x^2 - 18x + 81$
    C. $2(9x-6) = 3(6x-4)$
    D. $(x-y)^2 = x^2 - y^2$

11. **[18 - 19 F.2 Mid-year #3]**
    Expand $(3a + 2b)(3a - 2b)$.
    A. $3a^2 - 2b^2$ **B.** $3a^2 - 4b^2$
    C. $9a^2 - 2b^2$ **D.** $9a^2 - 4b^2$

12. **[18 - 19 F.2 Mid-year #12]**

    It is given that A and B are constants. Find the constant term in the expansion of $\left(Ax - \dfrac{B}{x} \right)^2$.

    A. $-2AB$ **B.** $-B^2$
    C. B^2 **D.** $2AB$

13. **[18 - 19 F.2 Final Exam #2]**

    $(2x+3y)^2 - (2x-3y)^2 =$

    A. $24xy$.
    B. $6xy$.
    C. 0.
    D. $-24xy$.

14. [19 - 20 F.2 Standardized test 1, #7]

Which of the following is / are correct?

    I. $x^2 - y^2 \equiv (x - y)^2$

    II. $(y - x)^2 \equiv (x - y)^2$

    III. $(-x - y)^2 \equiv -(x + y)^2$

  A.   I only   **B.**   II only

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

15. [19 - 20 F.2 Mid-year exam, #2]

Which of the following is correct?

  A. $(x - 4)^2 \equiv x^2 - 8x - 16$ **B.** $(x + 4)^2 \equiv x^2 - 8x + 16$

  C. $(x + 4)(x - 4) \equiv x^2 - 16$ **D.** $(8 - x)(8 + x) \equiv 16 - x^2$

16. [19 - 20 F.2 Mid-year exam, #3]

$$(-3 - x)(3 - x) =$$

  A. $x^2 - 9$.   **B.** $-x^2 + 9$.

  C. $x^2 - 6x + 9$.   **D.** $-x^2 + 6x - 9$.

17. [19 - 20 F.2 Mid-year exam, #15]

Let $N = (1002a)^2 - 3^2$, where a is a positive integer. Which of the following must be true?

    I. N is a prime number.

    II. N is an odd number.

    III. N is a multiple of 3.

  A.   I only   **B.**   III only

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

18. [19 - 20 F.2 Mid-year exam, #16]

It is given that $16x^2 - 80x + a$ is a perfect square, where a is a constant. Find the value of a.

  A. 4   **B.**   16

  C. 80   **D.**   100

19. [20-21 F.2 Mid-year exam, #2]

If a and b are constants such that $a(x-3)^2 - 2x \equiv 9x^2 + bx(x+2) + 18$, then $b =$

  A.   7.

  B.   1.

  C. -1.

  D. -7.

20. [20-21 F.2 Mid-year exam, #8]

Which of the following must be true?

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

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

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

    A. I only

    B. II only

    C. I and III only

    D. II and III only

21. [20-21 S. 2 Final exam, #2]

If $(x-1)^2 + 3x \equiv x^2 + Ax + B$, find the values of A and B.

    A. $A = 1, B = 1$

    B. $A = 1, B = -1$

    C. $A = 3, B = 1$

    D. $A = 3, B = -1$

~ End ~