

Factor each of the following completely.

• Common Monomial Factoring (type A)

1.  $x^2 + 3x =$  \_\_\_\_\_

2.  $5x^2 - 7x =$  \_\_\_\_\_

3.  $7x^3 + 21x^2 =$  \_\_\_\_\_

4.  $15x^3 - 35x^2 =$  \_\_\_\_\_

5.  $56x^4 + 42x^3 =$  \_\_\_\_\_

6.  $60x^3 - 40x^2 =$  \_\_\_\_\_

• Factoring Trinomials (Leading Coefficient 1) (type B)

7.  $x^2 + 3x + 2 =$  \_\_\_\_\_

8.  $x^2 - 5x + 6 =$  \_\_\_\_\_

9.  $x^2 - 9x + 20 =$  \_\_\_\_\_

10.  $x^2 + 12x + 32 =$  \_\_\_\_\_

11.  $x^2 + x - 6 =$  \_\_\_\_\_

12.  $x^2 - 3x - 4 =$  \_\_\_\_\_

13.  $x^2 - 7x - 18 =$  \_\_\_\_\_

14.  $x^2 + 8x - 48 =$  \_\_\_\_\_

• Combo. Types A and B

15.  $3x^2 + 9x + 6 =$  \_\_\_\_\_

16.  $5x^4 - 25x^3 + 20x^2 =$  \_\_\_\_\_

17.  $7x^3 - 42x^2 - 280x =$  \_\_\_\_\_

18.  $-4x^3 - 12x^2 + 40x =$  \_\_\_\_\_

• Factoring Trinomials (Leading Coefficient Not 1) (type C)

19.  $3x^2 + 5x + 2 =$  \_\_\_\_\_

20.  $5x^2 - 13x + 6 =$  \_\_\_\_\_

21.  $7x^2 - 11x - 6 =$  \_\_\_\_\_

22.  $2x^2 + 7x - 15 =$  \_\_\_\_\_

23.  $6x^2 + 13x + 5 =$  \_\_\_\_\_

24.  $10x^2 - 21x + 9 =$  \_\_\_\_\_

25.  $16x^2 - 8x - 15 =$  \_\_\_\_\_

26.  $35x^2 + 41x - 24 =$  \_\_\_\_\_

Factor each of the following completely.

• Combo. Types A and C

27.  $6x^2 + 33x + 15 =$  \_\_\_\_\_

28.  $35x^3 - 110x^2 + 15x =$  \_\_\_\_\_

29.  $24x^4 + 13x^3 - 2x^2 =$  \_\_\_\_\_

30.  $-60x^4 + 5x^3 + 30x^2 =$  \_\_\_\_\_

• Mixed Practice: Types A, B, and/or C

31.  $5x^2 + 35x + 60 =$  \_\_\_\_\_

32.  $5x^2 + 7x - 6 =$  \_\_\_\_\_

33.  $6x^2 - 19x + 15 =$  \_\_\_\_\_

34.  $6x^2 - 24x - 126 =$  \_\_\_\_\_

35.  $x^2 - 9x - 90 =$  \_\_\_\_\_

36.  $-6x^3 + 58x^2 - 80x =$  \_\_\_\_\_

37.  $9x^2 - 59x + 30 =$  \_\_\_\_\_

38.  $9x^2 - 30x - 24 =$  \_\_\_\_\_

39.  $24x^2 - 62x + 40 =$  \_\_\_\_\_

40.  $24x^2 + 10x - 25 =$  \_\_\_\_\_

• Factoring Binomials - Difference of Two Squares:  $A^2 - B^2 = (A + B)(A - B)$   
 (NOTE: THE SUM OF TWO SQUARES,  $A^2 + B^2$ , CAN NOT BE FACTORED.)

41.  $x^2 - 9 =$  \_\_\_\_\_

42.  $x^2 - 49 =$  \_\_\_\_\_

43.  $9x^2 - 25 =$  \_\_\_\_\_

44.  $121x^2 - 81 =$  \_\_\_\_\_

45.  $x^4 - 16 =$  \_\_\_\_\_

46.  $81x^4 - 1 =$  \_\_\_\_\_