1. Which of the following is the factorization of $x^2 - 5x + 6$?
   A. (x - 3)(x - 2) B. (x + 3)(x + 2)
   C. (x - 1)(x - 6) D. (x + 2)(x - 6) (A)

Explanation: The factorization of $x^2 - 5x + 6$ is (x - 3)(x - 2)

2. Which method is used for factorizing polynomials like $x^2 + 5x + 6$
   A. Middle Term Splitting
   B. Synthetic Division
   C. Long Division
   D. Factor Theorem (A)

Explanation: The Middle Term Splitting Method is commonly used for factorizing quadratic polynomials such as $x^2 + 5x + 6$

3. If x = 3 is a zero of the polynomial $x^2 - 6x + 5$ what is the remainder when this polynomial is divided by x - 3?
   A. 1 B. 0
   C. 5 D. -5 (B)

Explanation: By the Factor Theorem, x = 3 is a zero of the polynomial, the remainder when the polynomial is divided by z x - 3 is 0.

4. What is the value of the polynomial $p(x) = x^3 - 2x^2 + x - 2$ at x = 2 ?
   A. 0
   B. 2
   C. 4
   D. -2 (A)

Explanation: Substituting x = 2 into the polynomial, $p(2) = 2^3 - 2(2)^2 + 2 - 2 = 8 - 8 + 2 - 2 = 0$

5. Which of the following is the correct factorization of $x^3 + 3x^2 - 4x - 12$?
   A. $(x + 3)(x^2 - 4)$
   B. $(x - 3)(x^2 + 4x + 4)$
   C. $(x - 2)(x^2 + 5x + 6)$
   D. $(x + 2)(x^2 + 3x - 6)$ (A)

Explanation : The correct factorization of $x^3 + 3x^2 - 4x - 12$ is $(x + 3)(x^2 - 4)$

6. What is the factorization of the polynomial $x^2 + 7x + 10$?
   A. (x + 5)(x + 2) B. (x-5)(x-2)
   C. (x+10)(x-1) D. (x - 7)(x + 10) (A)

Explanation: Using the middle term splitting method, we can factorize $x^2 + 7x + 10$ as (x + 5)(x + 2)

7. What is the factorization of the polynomial $x^2 - 4$?
   A. (x - 2)(x + 2)
   B. (x + 4)(x - 4)
   C.(x - 4)(x + 4)
   D. (x - 2)(x + 4) (A)

Explanation: The polynomial $x^2 - 4$ is a difference of squares and can be factorized as (x - 2)(x + 2)

8. Which of the following is the correct factorization of $x^2 - 3x - 10$?
   A. (x - 5)(x + 2)
   B. (x + 5)(x - 2)
   C. (x - 10)(x + 1)
   D. (x - 2)(x - 5) (A)

Explanation: The polynomial $x^2 - 3x - 10$ can be factorized as (x - 5)(x + 2) because - 5 * 2 = - 10 and -5 + 2 = -3

9. The zeroes of the quadratic polynomial $x^2 + 2x - 3$ are:
   A. 1, -3 B. -1, 3
   C. -3, 1 D. 3, -2 (C)

Explanation: Solving $x^2 + 2 - 3 = 0$, we get the zeroes as x = -3 and x = 1

10. Which of the following is true for a polynomial of the form $ax^2 + bx + c$?
    A. The sum of the zeroes is $-\frac{b}{a}$
    B. The product of the zeroes is $\frac{b}{a}$
    C. The sum of the zeroes is $\frac{c}{a}$
    D. The product of the zeroes is $-\frac{c}{a}$ (A)

Explanation: For a quadratic polynomial $ax^2 + bx + c$, the sum of the zeroes is given by $-\frac{b}{a}$ and the product of the zeroes is $\frac{c}{a}$.