Tick (✓) the correct option for the given questions:

A. If the polynomial $f(x) = x^3 + x^2 + x + 1$ and $g(x) = x + 1$, what will be the degree of $f(x) \div g(x)$?

a. 1 b. 2 c. 3 d. 4

B. When the polynomial $f(x)$ is divided by the divisor $d(x)$, the quotient is $q(x)$ and the remainder is R. Which of the following relation between the polynomials $f(x)$, $d(x)$, $q(x)$ and $r(x)$ is correct?

a. $f(x) = d(x) \times q(x) + R$ b. $f(x) = q(x) \times q(x) + R$

c. $f(x) = R \times q(x) + d(x)$ d. $f(x) = d(x) \times R + R$

C. What will be the remainder when the polynomial $f(x)$ is divided by $x - a$?

a. 0 b. 1 c. $f(x)$ d. $f(a)$

D. What will be the remainder when the polynomial $f(x)$ is divided by $ax + b$?

a. $f(\frac{a}{b})$ b. $f(-\frac{a}{b})$ c. $f(-\frac{b}{a})$ d. $f(\frac{b}{a})$

E. What will be the remainder when the polynomial $(x^3 - x^2 + 1)$ is divided by $(x - 1)$?

a. 0 b. 1 c. 2 d. 3

F. If the remainder is 4 when the polynomial $x^3 + 3x^2 - kx + 4$ is divided by $x - 2$, what is the value of k?

a. 10 b. 8 c. 4 d. 2

Tick (✓) the correct option from the given questions:

A. When a polynomial $f(x)$ is divided by a factor $(x - a)$, what is the value of $f(a)$?

a. 0 b. 1 c. a d. $-a$

B. When the polynomial $f(x)$ is divided by a linear factor, the remainder is $f(-k)$. What is that factor?

a. $x - a$ b. $x + k$ c. $x - k$ d. $x + a$

C. In which condition does the polynomial $f(x)$ have a factor $(cx - d)$?

a. $f(\frac{c}{d}) = 0$ b. $f(-\frac{c}{d}) = 0$ c. $f(\frac{d}{c}) = 0$ d. $f(-\frac{d}{c}) = 0$

D. If $(x - 1)$ is a factor of the polynomial, $x^3 + x^2 + p + 1$ what is the value of p?

a. –5 b. –4 c. –3 d. –1

E. If $(x + 3)$ is a factor of the polynomial $3x^3 + mx^2 - 7x - 3$, what is the value of m?

a. 2 b. 3 c. 5 d. 7