INTEGRALS

INTEGRATION BY PARTIAL FRACTIONS

EXERCISE

Q.1 Which type of rotational function $\frac{px+q}{(x-a)(x-b)}, a \neq b$ does it signify?

(A) $\frac{A}{(x-a)}$ (B) $\frac{B}{(x-b)}$

(C) $\frac{A+B}{(x-b)(x-b)}$ (D) $\frac{A}{(x-a)}+\frac{B}{(x-b)}$

Q.2 Determine $\int \frac{x^2+1}{x^2-5x+6}dx$.

(A) $x-5\log|x-2|+10\log|x-3|+c$

(B) $x-3\log|x-2|+5\log|x-3|+c$

(C) $x-10\log|x-2|+5\log|x-3|+c$

(D) $x-5\log|x-5|+10\log|x-10|+c$

Q.3 Solve. $\int \frac{x^2+1}{x^2-5x+6}dx$.

(A) $\log\left|\frac{x+1}{x+2}\right|+C$ (B) $\log\left|\frac{x-1}{x+2}\right|+C$

(C) $\log\left|\frac{x+2}{x+1}\right|+C$ (D) $\log\left|\frac{x+1}{x-2}\right|+C$

Q.4 To transform an improper fraction into a proper fraction, you can ____

(A) Multiplication (B) Division (C) Addition (D) Subtraction

Q.5 $\int \frac{dx}{x(x^2+1)}$ Equal.

(A) $\log|x|-\frac{1}{2}\log(x^2+1)+c$ (B) $\log|x|+\frac{1}{2}\log(x^2+1)+c$

(C) $-\log|x|+\frac{1}{2}\log(x^2+1)+c$ (D) $\frac{1}{2}\log|x|+(x^2+1)+c$

Q.6 $\int \frac{dx}{(x^2-9)}$ Equal.

(A) $\frac{1}{6}\log\frac{x+3}{x-3}+C$ (B) $\frac{1}{6}\log\frac{x-3}{x+3}+C$

(C) $\frac{1}{5}\log\frac{x+3}{x-3}+C$ (D) $\frac{1}{3}\log\frac{x+3}{x-3}+C$

Q.7 Which form does the rotational function $\frac{px+q}{(x-a)^2}$ represent?

(A) $\frac{A}{(x-a)}+\frac{B}{(x-a)^2}$ (B) $\frac{A}{(x-a)^2}+\frac{B}{(x-a)}$

(C) $\frac{A}{(x-a)}-\frac{B}{(x-a)^2}$ (D) $\frac{A}{(x-a)}-\frac{B}{(x-a)}$

Q.8 Determine the characteristics or type of the expression $(x + 1)^2$.

(A) Liner equation (B) Cubic Equation

(C) Identity (D) Imaginary

Q.9 How many values of x satisfy the equation $(x + 2)(x + 4) = x^2 + 6x + 8$?

(A) Two value of x (b) One value of x

(c) All value of x (d) No value of x

ANSWER KEY

1. (D)

2. (A)

3. (A)

4. (B)

5. (A)

6. (B)

7. (A)

8. (C)

9. (C)