

**SWOT INSTITUTE**  
**INDEFINITE INTEGRAL**  
**XII-TEST**

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Time : 1 hr.

1. Integrate :  $\frac{e^{2x} - 1}{e^{2x} + 1}$

2. Integrate :  $\frac{\sin^2 x}{1 + \cos x}$

3. Integrate :  $\frac{\cos 2x + 2 \sin^2 x}{\cos^2 x}$

4. Integrate :  $\frac{1}{\cos(x-a)\cos(x-b)}$

5. Integrate :  $\frac{\sec^2 x}{\sqrt{\tan^2 x + 4}}$ .

6. Integrate :  $\frac{5x - 2}{1 + 2x + 3x^2}$

7. Integrate :  $\frac{5x + 3}{\sqrt{x^2 + 4x + 10}}$

8. Find  $\int \frac{x^2}{(x^2 + 1)(x^2 + 4)}$

9. Find  $\int \frac{(3 \sin \phi - 2) \cos \phi}{5 - \cos^2 \phi - 4 \sin \phi} d \phi$ .

10. Integrate :  $\frac{1}{x(x^n + 1)}$

11.  $\int e^{2x} \sin 3x dx$ .