INTEGRAL EXERCISE

1.

$$\int \frac{dx}{1+\cos x} = \cdots$$

2.

$$\int \tan x \sec^4 x \, dx = \cdots$$

3.

$$\int \frac{dx}{x^2 - 4x + 13} = \cdots$$

4.

$$\int \cos(\ln x) \, dx = \cdots$$

5.

$$\int \tan^2 x \sec^4 x \, dx = \cdots$$

6.

$$\int \frac{e^x dx}{e^{2x} + 3e^x + 2} = \cdots$$

7.

$$\int \frac{\cos x}{\sin^2 x + \sin x - 6} dx = \cdots$$

8.

$$\int \frac{(x+1)^2 \tan^{-1} 3x + 9x^3 + x}{(9x^2+1)(x+1)^2} dx = \cdots$$

9.

$$\int \frac{2x^4}{x^3 - x^2 + x - 1} dx = \cdots$$

10.

$$\int \ln(x^2 + x) \, dx = \cdots$$

11.

$$\int \frac{dx}{x^2\sqrt{x^2+4}} = \cdots$$

12.

$$\int \frac{dx}{\cos x + 2\sin x + 2} = \cdots$$

13.

$$\int \frac{2x^3 - 1}{x^4 + x} dx = \cdots$$

14.

$$\int \frac{\cos 4x + 1}{\cot x - \tan x} dx = \cdots$$

15.

$$\int \frac{e^x + \cos x}{e^x + \sin x} dx = \cdots$$

16.

$$\int \frac{dx}{x^2 \sqrt[4]{(x^4+1)^3}} = \cdots$$

17.

$$\int \frac{2x}{1+\cos 2x} dx = \cdots$$

18.

$$\int_{-2\pi^2}^{2\pi^2} \frac{\sin\left(x^{10^n}\right)}{x^{10n-1}} dx = \cdots, n \in \mathbb{Z}$$

19.

$$\int_{-\infty}^{\infty} \frac{dx}{e^x + e^{-x}} = \cdots$$

20.

$$\int \frac{x}{\sqrt{2-x}} dx = \cdots$$