

Integrals Assignment

QUESTION 1: Evaluate the following indefinite integrals:

(i) $\int x \ln x \, dx$

(ii) $\int \tan^{-1} x \, dx$

QUESTION 2: Evaluate the following integrals:

(i) $\int 5^x \cot(5^x) \, dx$

(ii) $\int \frac{x^2 - 4x + 3}{x^2 - 4x + 5} \, dx$

QUESTION 3: Find

$$\int \log x \, dx$$

QUESTION 4: Find

$$\int x^5 \sqrt{1 + x^2} \, dx$$

QUESTION 5: Evaluate

$$\int \frac{1}{x^{1/5} + 2} \, dx$$

QUESTION 6: Integrate

$$\int \frac{\cos x}{\sin^3 x + \sin x} \, dx$$

QUESTION 7: Integrate

$$\int \frac{1}{e^x + 1} \, dx$$

For solutions write to us at leena@tutorbreeze.com

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QUESTION 8: Integrate $\int \frac{3-x}{x(x^2+1)} dx$

QUESTION 9: Integrate $\int \frac{x}{x^2+2x+1} dx$

QUESTION 10: Integrate $\int \frac{x}{x^2+2x+5} dx$

QUESTION 11: Integrate $\int \frac{1}{1+e^{2x}} dx$

QUESTION 12:: Integrate $\int \frac{9+6\sqrt{x}+x}{4\sqrt{x}+x} dx$

QUESTION 13: Integrate $\int x \cos 3x dx$

QUESTION 14: Integrate $\int x^2 e^{3x} dx$

QUESTION 15: Integrate $\int x^5 e^{x^2} dx$

QUESTION 16: Integrate $\int x^7 \sqrt{5+3x^4} dx$

QUESTION 17: Integrate $\int e^{6x} \sin e^{3x} dx$

QUESTION 18: Integrate $\int \sin 3x \cos 5x dx$

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QUESTION 19: Integrate $\int e^x \cos(e^x) dx$

QUESTION 20: Integrate $\int \sin 3x \cos 4x dx$

QUESTION 21: Integrate $\int \frac{\sin 2x - \cos 2x}{\sin 2x + \cos 2x} dx$

QUESTION 22: Integrate $\int \sec x \sqrt{\sec x + \tan x} dx$

QUESTION 23: Integrate $\int \frac{\sin x}{1 + \sin x} dx$

QUESTION 24: Integrate $\int (\sec^2 x) \sqrt{5 + \tan x} dx$

QUESTION 25: Integrate $\int \tan^5 x dx$

QUESTION 26: Integrate $\int (\sin x - \cos x)(\sin x + \cos x)^5 dx$

QUESTION 27: Integrate $\int (\cos x) e^{4+\sin x} dx$

QUESTION 28: Integrate $\int (\sec x \tan x) \sqrt{4 + 3 \sec x} dx$

Integrals Assignment

QUESTION 29: Integrate $\int e^x(1 - e^x)(1 + e^x)^{10} dx$

QUESTION 30: Integrate $\int (2 - 3e^x) dx$

QUESTION 31: Integrate $\int x\sqrt{4 - x} dx$

QUESTION 32: Integrate $\int \frac{x^2 + 4}{x + 2} dx$

QUESTION 33: Integrate $\int \frac{3x + 6}{x^2 + 4x - 3} dx$

QUESTION 34: Evaluate : $\int \frac{dx}{\sqrt{5x^2 - 2x}}$

QUESTION 35: Evaluate $\int \sqrt{x^2 + 2x + 5} dx$

QUESTION 35: $36 \int x^2 \sin x dx$