

KİSMİ İNTEGRAL, BASİT KESİRLERE AYIRMA

1. $\int 4x \cdot e^x dx$

integralinin eşiti nedir?

- A) $4x \cdot e^x + 4 \cdot e^x + c$ B) $4x \cdot e^x - 4 \cdot e^x + c$
 C) $2 \cdot e^x - e^x + c$ D) $e^x - e^{-x} + c$
 E) $4 \cdot e^x + 4 \cdot e^{2x} + c$

2. $\int (2x \cdot \ln x) dx$

integralinin eşiti nedir?

- A) $x^2 \cdot \ln x - \frac{x^2}{2} + c$ B) $2x \cdot \ln x - x + c$
 C) $x \cdot \ln x - \frac{x^2}{2} + c$ D) $x^2 \cdot \ln x + \frac{x^2}{2} + c$
 E) $x^2 \cdot \ln x^2 - \frac{x^2}{2} + c$

3. $\int \frac{x}{\cos^2 x} dx$

integralinin eşiti nedir?

- A) $\ln|\tan x| + c$ B) $\tan x + \ln|\cos x| + c$
 C) $x \cdot \tan x - \ln|\sin x| + c$ D) $x \cdot \tan x + \ln|\cos x| + c$
 E) $\ln|\sin x| - x \cdot \tan x + c$

4. $\int \operatorname{arccot} x dx$

integralinin eşiti nedir?

- A) $x \cdot \operatorname{arccot} x + \ln|x^2 + 1| + c$
 B) $x \cdot \operatorname{arccot} x + \ln|x^2 + 1| + c$
 C) $x \cdot \cot x + \frac{1}{2} \ln|x^2 + 1| + c$
 D) $x \cdot \operatorname{arccot} x + \frac{1}{2} \ln|x^2 + 1| + c$
 E) $x \cdot \operatorname{arccot} x - \frac{1}{2} \ln|x^2 + 1| + c$

5. $F(x) = \int f'''(x) \cdot f(x) dx$ fonksiyonunun sabit terimi yoktur.

 $f(2) = f'(2) = f''(2) = 2$ olduğuna göre, **F(2)** kaçtır?

- A) 0 B) 1 C) 2 D) 3 E) 4

6. $\int e^x \cdot \sin x dx$

integralinin eşiti nedir?

- A) $e^x (\sin x + \cos x) + c$ B) $e^x (\sin x - \cos x) + c$
 C) $e^x \cdot (\cos x - \sin x) + c$ D) $\frac{e^x}{2} (\cos x - \sin x) + c$
 E) $\frac{e^x}{2} (\sin x - \cos x) + c$

7. $\int \sin(\ln x) dx$

integralinin sonucu nedir?

- A) $\frac{1}{2} \cdot x \cdot (\sin(\ln x) - \cos(\ln x)) + c$
 B) $\frac{1}{2} \cdot (\sin(\ln x) - \cos(\ln x)) + c$
 C) $\frac{1}{2} \cdot (\cos(\ln x) - \sin(\ln x)) + c$
 D) $\frac{1}{2} x (\tan(\ln x) - \cot(\ln x)) + c$
 E) $\frac{1}{2} x (\ln(\sin x) - \ln(\cos x)) + c$

8. $\int \frac{4}{x^2 - 4} dx$

integralinin sonucu nedir?

- A) $\ln|x^2 - 4| + c$ B) $\ln\left|\frac{x-2}{x+2}\right| + c$
 C) $\ln|x - 2| + c$ D) $\ln|x + 2| + c$
 E) $\frac{x^3}{3} - 4x + c$

9. $\int \frac{1}{x^2 + 7x + 12} dx$

integralinin eşiti nedir?

- A) $\ln \left| \frac{x+3}{x+4} \right| + c$ B) $\ln \left| \frac{x-3}{x-4} \right| + c$
 C) $\ln |x^2 + 7x + 12| + c$ D) $\ln \left| \frac{x-3}{x+4} \right| + c$
 E) $\ln \left| \frac{x-1}{x+3} \right| + c$

10. $\int \frac{3}{x^2 - x - 2} dx$

integralinin eşiti nedir?

- A) $\frac{x^3}{3} - 2x + c$ B) $\ln \left| \frac{x^3}{3} - 2x \right| + c$
 C) $\ln |x^2 - x - 2| + c$ D) $\ln \left| \frac{x+1}{x-2} \right| + c$
 E) $\ln \left| \frac{x-2}{x+1} \right| + c$

11. $\int \frac{2x}{4 - x^2} dx$

integralinin eşiti nedir?

- A) $2 \ln \left| \frac{x-2}{x+2} \right| + c$ B) $-\ln \left| \frac{x+2}{x-2} \right| + c$
 C) $\ln \left| \frac{x-2}{x+2} \right| + c$ D) $\ln \left| \frac{2-x}{x+2} \right| + c$
 E) $-\ln |x^2 - 4| + c$

12. $\int \left(\frac{x^2 - 3}{x^2 - 9} \right) dx$

integralinin eşiti nedir?

- A) $\ln \left| \frac{x-3}{x+3} \right| + c$ B) $\ln \left| \frac{x+3}{x-3} \right| + c$
 C) $x + \ln \left| \frac{x-3}{x+3} \right| + c$ D) $2x + \ln \left| \frac{x-3}{x+3} \right| + c$
 E) $x - \ln \left| \frac{x-3}{x+3} \right| + c$

13. $\int \frac{1}{x \cdot (x^2 + 1)} dx$

integralinin eşiti aşağıdakilerden hangisidir?

- A) $\ln(x) + \ln(x^2 + 1) + c$ B) $\ln|x| - \frac{1}{2} \cdot \ln|x^2 + 1| + c$
 C) $\ln|x^2 + 1| - \frac{1}{2} \cdot \ln(x) + c$ D) $\ln|x| - \arctan x + c$
 E) $\ln x + \operatorname{arccot} x + c$

14. $\int \frac{2x+1}{(x+1)^2} dx$

integralinin eşiti nedir?

- A) $2 \ln|x+1| + \frac{1}{x+1} + c$ B) $\ln|x+1| + \frac{1}{x+1} + c$
 C) $2 \ln|x+1| - \frac{1}{x+1} + c$ D) $2 \ln|x| + \frac{1}{x+1} + c$
 E) $2 \ln|x+1| + \frac{1}{x} + c$

15. $\int \frac{1}{-2x - x^2} dx$

integralinin eşiti nedir?

- A) $\arcsin(\ln x) + c$ B) $\ln \left| \frac{x+2}{x-2} \right| + c$
 C) $\ln|\arcsin x| + c$ D) $\frac{1}{2} \ln \left| \frac{x+2}{x} \right| + c$
 E) $2 \ln \left| \frac{x}{x+2} \right| + c$

16. $\int \frac{1}{x^2 + 4x - 5} dx$

integralinin eşiti nedir?

- A) $\ln \left| \frac{x+1}{x+5} \right| + c$ B) $\frac{1}{4} \cdot \ln \left| \frac{x+1}{x+5} \right| + c$
 C) $\arcsin|x+2| + c$ D) $\arccos|x+2| + c$
 E) $\frac{1}{6} \ln \left| \frac{x-1}{x+5} \right| + c$

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