積分大復習 part2 ［練習問題］

1min.

次の不定積分を計算せよ.

(1) $\displaystyle\int \sin 2x \, dx$

(2) $\displaystyle\int \cos\frac{1}{2}x \, dx$

(3) $\displaystyle\int e^{4x+1} \, dx$

(4) $\displaystyle\int x^{\frac{1}{3}} \, dx$

(5) $\displaystyle\int x^e \, dx$

(6) $\displaystyle\int x^{-1} \, dx$

(7) $\displaystyle\int 2x \sin x^2 \, dx$

(8) $\displaystyle\int x \sin x^2 \, dx$

(9) $\displaystyle\int x^3 \cos\frac{1}{5}x^4 \, dx$

(10) $\displaystyle\int e^{\sin x} \cos x \, dx$

(11) $\displaystyle\int \frac{\log x}{x} \, dx$

(12) $\displaystyle\int x^{e-1}(x^e + 8)^{12} \, dx$

(13) $\displaystyle\int \frac{\cos x}{\sin x} \, dx$

(14) $\displaystyle\int x \sin x^2 \sin(\cos x^2) \, dx$

(15) $\displaystyle\int \frac{x}{x^2 + 4} \, dx$

(16) $\displaystyle\int \frac{x + 2}{x^2 + 4x + 8} \, dx$

(17) $\displaystyle\int \frac{x^2 + 1}{\sqrt{x^3 + 3x + \sqrt{2}}} \, dx$

(18) $\displaystyle\int \frac{1}{\frac{1}{x^2} - 9x} \, dx$

(19) $\displaystyle\int \frac{5x}{\sqrt{1 - x^2}} \, dx$

(20) $\displaystyle\int \frac{x^3 + 2x}{\sqrt[2]{x}} \, dx$

(21) $\displaystyle\int \frac{1}{x \log x^3} \, dx$

(22) $\displaystyle\int 2^x \, dx$

(23) $\displaystyle\int \frac{\log_2 x^2}{x} \, dx$

(24) $\displaystyle\int \frac{1}{\sqrt{x}} \cdot \frac{1}{\sqrt{1 - \sqrt{x}}} \, dx$