Q01 当てはまる数式を答えよ.

[1] 1 の不定積分

[2] $x$ の不定積分

[3] $x^2$の不定積分

[4] $x^3$の不定積分

Sheet [1] = :: 2 [2] = :: 2 [4] = :: 2 [4] = :: 2

Ans

[1] $x$

[2] $\frac{1}{2}x^2$

[3] $\frac{1}{3}x^3$

[4] $\frac{1}{4}x^4$

Q02 次の不定積分を求めよ.

[1] $\int (x^2+4x)dx$

[2] $\int (x^3-1)dx$

Sheet [1] = :: 2 [2] = :: 2

Ans

[1] $\frac{1}{3}x^3+2x^2+C$

[2] $\frac{1}{4}x^4-x+C$

Q02 次の不定積分を求めよ.

[1] $\int (x+1)^2dx$

[2] $\int (x+1)(x+2)dx$

Sheet [1] = :: 2 [2] = :: 2

Ans

[1] $\frac{1}{3}x^3+x^2+x+C$

[2] $\frac{1}{3}x^3+\frac{3}{2}x^2+2x+C$

Q03 次の値を求めよ.

[1] $\int_0^3 1dx$

[2] $\int_0^1 xdx$

Sheet [1] :: 2 [2] :: 2

Ans

[1] 3

[2] $\frac{1}{2}$

Q04 次の定積分を計算せよ.

[1] $\displaystyle\int_0^2 x^2 dx$

[2] $y = \displaystyle\int_1^2 x^2 dx$

Sheet [1] :: 2 [2] :: 2

Ans

[1] $\frac{8}{3}$

[2] $\frac{7}{3}$

Q05 次の定積分を計算せよ.

[1] $\int_0^1 ((3x^2+1))dx$

[2] $\int_{-1}^2 ((-x^2+x+2))dx$

[3] $\int_0^1 ((x^3+1))dx$

[4] $\int_{-1}^1 ((x^4+x^3+2x^2))dx$

Sheet [1] :: 2 [2] :: 2 [3] :: 2 [4] :: 2

Ans

[1] 2

[2] $\frac{9}{2}$

[3] $\frac{5}{4}$

[4] $\frac{26}{15}$