

## C1 数学 解答例

1

(1)  $\frac{1}{2}(1 - e^{-x^2})$

(2)  $\frac{1}{2}$

(3)  $\frac{1}{2} - \frac{1}{2}(X^2 + 1)e^{-x^2}$

(4)  $\frac{1}{2}$

2

(1)  $\tan\alpha = \frac{3a}{x}$

(2)  $\tan\beta = \frac{a}{3x}$

(3)  $\tan\theta = \frac{8}{3} \frac{ax}{x^2 + a^2}$

(4)  $P(a, 0), \quad \tan\theta = \frac{4}{3}$

3

(1)  $y = 2x\sqrt{1 - x^2}$

(2)  $\frac{2}{3}$

(3)  $\frac{8}{15}\pi$

4

$$(1) P_1 = 0, \quad P_2 = 0, \quad P_3 = \frac{6}{n(n-1)(n-2)}$$

$$(2) \frac{3(k-1)(k-2)}{n(n-1)(n-2)} \quad (3 \leq k \leq n)$$

$$(3) \frac{j(j-1)(j-2)}{n(n-1)(n-2)} \quad (1 \leq j \leq n)$$

$$(4) 1 - \left(1 - \frac{3}{n}\right)^m$$

$$(5) 1 - \frac{1}{e^3}$$

5

$$(1) \frac{1}{2} \sqrt{2x^2 + (y+z-1)^2}$$

$$(2) y = z = \frac{t}{2}$$

$$(3) x = 1, \quad y = z = \frac{2 - \sqrt{2}}{2}$$