$(a+$

$b)^n$

n

$$\sum_{k=1}^{n} k$$

(1)

$$\sum_{k=1}^{n} k^2$$

(2)

$$\sum_{k=1}^{n} k^3$$

(3)

$$\sum_{k=1}^{n} (2k-1)$$

(4)

$$\sum_{k=2}^{n+1} k$$

(5)

C

$\frac{d}{dx}(x^n)$ n

(6)

$\int x^n \, dx$ n

(7)

$$\int_1^3 2x^3 + 6x^2 - 3 \, dx$$

(8)

$$\int (5x^4 + 4^3 + 1) \, dx$$

(9)

$$\frac{d}{dx} \int (x^{1024} + 5324x^{42}) \, dx$$

(10)

$$\int (y^2 + 2y + 1) \, dx$$

(11)

(6)

(z)(z) z^5-

1

1 a^n-

b^n

$a_1 =$

$3b_n-$
$2,1 \leq$
$n \leq$
$5\}$
$A\cap$
B

t xy $\mathrm{P}(\cos 2t, \cos t)$ $\mathrm{Q}(\sin t, \sin 2t)$
(1) P Q t
(2)t $0 <$
$t <$
2π , P xy ,x ,y , ,