

数学

◀工学部 (建築)▶

1 解答

(1) $a = -3, b = -2$ (2) $(\sin\theta, \cos\theta) = (0, 1), \left(\frac{5}{13}, -\frac{12}{13}\right)$

(3) $a = 7, b = 3, s_{xy} = -6.8, r = -\frac{17\sqrt{21}}{105}$

2 解答

(1) $f(x) = t^3 + 3t^2$ (2) $-\sqrt{2} \leq t \leq \sqrt{2}$

(3) 最大値: $6 + 2\sqrt{2}$ ($x = \frac{\pi}{4}$ のとき), 最小値: 0 ($x = \frac{3}{4}\pi$ のとき)

3 解答

(1) $\frac{1}{27}$ (2) $\frac{2}{81}$ (3) $\frac{31}{243}$

4 解答

(1) $a_n = -5n + 6, b_n = -\frac{1}{2}n(5n - 7)$ (2) $a_n = 2^{n-1}, b_n = 2^n - 1$

(3) $a_n = 3^n - 2, b_n = \frac{1}{2}(3^{n+1} - 3) - 2n$