

問題 2.1. $y = 2x^2 + 3x + 1 = 2\left(x + \frac{3}{4}\right)^2 - \frac{1}{8}$ より

$$x + \frac{3}{4} = X, \quad y + \frac{1}{8} = Y$$

と原点を移動すれば, $Y = 2X^2$ となる.

問題 2.2.

(1) $\vec{e}'_1 = \frac{\sqrt{2}}{2}\vec{e}_1 + \frac{\sqrt{2}}{2}\vec{e}_2, \quad \vec{e}'_2 = -\frac{\sqrt{2}}{2}\vec{e}_1 + \frac{\sqrt{2}}{2}\vec{e}_2$

(2) $XY = -\frac{1}{2}$

