

## 1 解答

[問 1]  $\sqrt{6} - \sqrt{3}$

[問 2]  $\frac{3 - \sqrt{5}}{2} < t < \frac{3 + \sqrt{5}}{2}$

[問 3] 1

[問 4]  $a = \frac{-(3 + 3t) - \sqrt{-6t^2 + 18t - 6}}{1 + t^2}, b = \frac{-(3 + 3t) + \sqrt{-6t^2 + 18t - 6}}{1 + t^2}$

[問 5]  $\frac{9 \pm 4\sqrt{2}}{7}$

## 2 解答

[問 1]  $\frac{729}{10000}$

[問 2] (1)  $\frac{(n-1)(n-2) \cdot 9^{n-3}}{2 \cdot 10^n}$

(2)  $\frac{9n}{10(n-2)}$

(3) 20, 21

## 3 解答

[問 1]  $y = \frac{\sqrt{3}}{3}x$

[問 2]  $\left(\frac{2\sqrt{3}}{3}, \frac{2}{3}\right)$

[問 3]  $\left(0, \frac{4}{3}\right)$

[問 4]  $\left(\frac{4\sqrt{3}}{3}, \frac{8}{3}\right)$

[問 5] (証明略)

## 4 解答

[問 1]  $y = x$

[問 2]  $y = -x + \frac{\pi + 2}{4}$

[問 3]  $\frac{\pi}{4}$

[問 4]  $\frac{\pi - 1}{4}$