

1

(1)

l_1 の方程式は 3 x + 5 y - 23 = 0. …ア, イ, ウエ

(2)

l_2 の方程式は 5 x - 3 y + 7 = 0. …オ, カ, キ

(3)

$a = \frac{\text{32}}{\text{5}}$. …クケ, コ $b = -\frac{\text{7}}{\text{5}}$. …サ, シ

面積は $\frac{1}{6}(6-1)^3 = \frac{\text{125}}{\text{6}}$. …スセソ, タ

2

(1)

$$2x^4 + \boxed{3}x^3 - \boxed{4}x^2 - \boxed{3}x + \boxed{2}. \cdots \text{ア, イ, ウ, エ}$$

$$(x+1)(x-\boxed{1})(x+\boxed{2})(\boxed{2}x-\boxed{1}). \cdots \text{オ, カ, キ, ク}$$

(2)

$$\boxed{4} \text{ 個. } \cdots \text{ケ} \qquad \boxed{15} \text{ 個. } \cdots \text{コサ}$$

3

(1)

$$\int_0^2 f(t) dt = \frac{\boxed{5}}{\boxed{4}}. \dots \text{ア, イ}$$

(2)

$$g(0) = -\frac{\boxed{6}}{\boxed{5}}. \dots \text{ウ, エ}$$

(3)

$$f(1) = \frac{\boxed{11}}{\boxed{24}}. \dots \text{オカ, キク}$$

$$f(2) = -\frac{\boxed{7}}{\boxed{12}}. \dots \text{ケ, コサ}$$

(4)

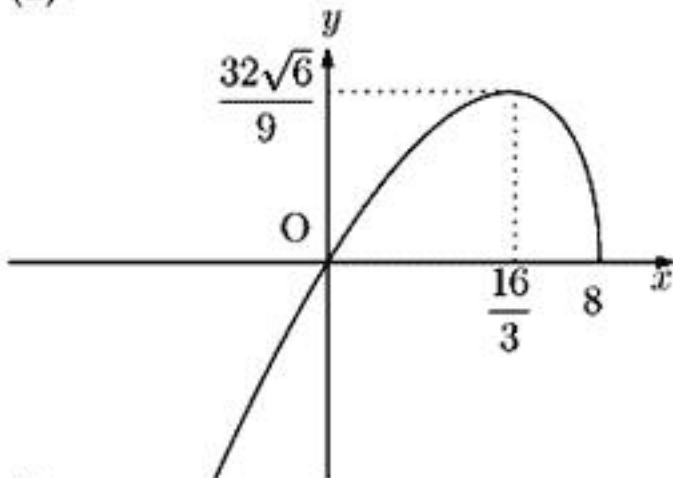
$$\int_1^2 f(t) dt = -\frac{\boxed{1}}{\boxed{16}}. \dots \text{シ, スセ}$$

4

(1)

$$x = \frac{16}{3}, \dots \text{〔答〕}$$

(2)



$$0 \leq k < \frac{32\sqrt{6}}{9}, \dots \text{〔答〕}$$

(3)

$$P\left(\frac{8}{3}, \frac{32\sqrt{3}}{9}\right), \quad y = \sqrt{3}x + \frac{8\sqrt{3}}{9}, \dots \text{〔答〕}$$

(4)

$$Q \text{ の } x \text{ 座標は } 3 - \sqrt{7}, \dots \text{〔答〕}$$

5

$$(1) \quad (\log x)' = \frac{1}{x}. \quad \cdots \text{〔答〕} \quad 1. \quad \cdots \text{〔答〕}$$

$$(2) \quad v_1 = \frac{t-1}{\sqrt{(t-1)^2 + (\log t)^2}}, \quad v_2 = \frac{\log t}{\sqrt{(t-1)^2 + (\log t)^2}}. \quad \cdots \text{〔答〕}$$

$$(3) \quad \lim_{t \rightarrow 1+0} v_1 = \frac{1}{\sqrt{2}}, \quad \lim_{t \rightarrow 1+0} v_2 = \frac{1}{\sqrt{2}}. \quad \cdots \text{〔答〕}$$

$$\lim_{t \rightarrow 1-0} v_1 = -\frac{1}{\sqrt{2}}, \quad \lim_{t \rightarrow 1-0} v_2 = -\frac{1}{\sqrt{2}}. \quad \cdots \text{〔答〕}$$

$$(4) \quad \lim_{t \rightarrow 1} \cos \theta = -\frac{1}{\sqrt{10}}. \quad \cdots \text{〔答〕}$$