

I

$$[1] \quad \boxed{\text{ア}} \quad a+b-1 \neq 0 \quad \boxed{\text{イ}} \quad a+b-1=0 \quad \text{かつ} \quad a \neq \frac{1}{2} \quad \boxed{\text{ウ}} \quad a=b=\frac{1}{2}$$

$$[2] \quad \boxed{\text{エ}} \quad a+b-2 \quad \boxed{\text{オ}} \quad -a-b+1 \quad \boxed{\text{カ}} \quad 1 \quad \boxed{\text{キ}} \quad 1-a-b$$

$$\boxed{\text{ク}} \quad \left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right) \quad \boxed{\text{ケ}} \quad \left(\frac{a}{\sqrt{a^2+b^2}}, -\frac{b}{\sqrt{a^2+b^2}} \right)$$

II

$$[1] \quad \boxed{\text{コ}} \quad 24 \quad \boxed{\text{サ}} \quad 9 \quad \boxed{\text{シ}} \quad 15 \quad \boxed{\text{ス}} \quad -20$$

$$[2] \quad \boxed{\text{セ}} \quad \left(\frac{1}{10}(-t-3t^2), \frac{1}{10}(3t+9t^2) \right) \quad \boxed{\text{ソ}} \quad -3$$

$$[3] \quad \boxed{\text{タ}} \quad (-3, 9) \quad \boxed{\text{チ}} \quad 9$$

III

$$[1] \quad \boxed{\text{ツ}} \quad 5 \quad \boxed{\text{テ}} \quad \frac{13}{16}$$

$$[2] \quad \boxed{\text{ト}} \quad \frac{1}{3} \quad \boxed{\text{ナ}} \quad \frac{1}{3} \quad \boxed{\text{ニ}} \quad \frac{1}{3^n} \quad \boxed{\text{ヌ}} \quad \frac{2}{3^n} \quad \boxed{\text{ネ}} \quad \frac{2}{3^n} \quad \boxed{\text{ノ}} \quad \frac{2n-1}{3^n}$$

IV

$$[1] \quad \boxed{\wedge} \quad -k + e - 1 \quad \boxed{\vdash} \quad 2k \log k - 3k + e + 1 \quad \boxed{\supset} \quad k - e + 1$$

$$[2] \quad \boxed{\wedge} \quad \sqrt{e} \quad \boxed{\boxplus} \quad e + 1 - 2\sqrt{e} \quad \boxed{\supset} \quad 0 \quad \boxed{\approx} \quad e - 1$$