

I 9

II  $(a, b)$  の条件  $-1 \leq a \leq 1$ ,  $b \leq a^2 + 1$ ,  $b \geq 2a$ ,  $b \geq -2a$  (図は省略)

III (1) 6 番目,  $\frac{1}{32}$  (2)  $\frac{3}{32}$  (3)  $\frac{1}{2}$  (4)  $\frac{63}{256}$

IV (1)  $y = (2a_n + 1)x - a_n^2$  (2)  $a_{n+1} = \frac{a_n^2}{2a_n + 1}$  (証明略) (3)  $b_{n+1} = b_n^2$ ,  $b_n = 2^{2^{n-2}}$   
(4)  $k = 9$