

4. 함수  $f(x) = x^3 - 3x^2 + 1$ 의 그래프와 직선  $y = f'(-1)(x-a) + f(a)$ 가 서로 접하도록 하는 상수  $a$ 의 값은? (단,  $a \neq -1$ 이다.) [4.4점]

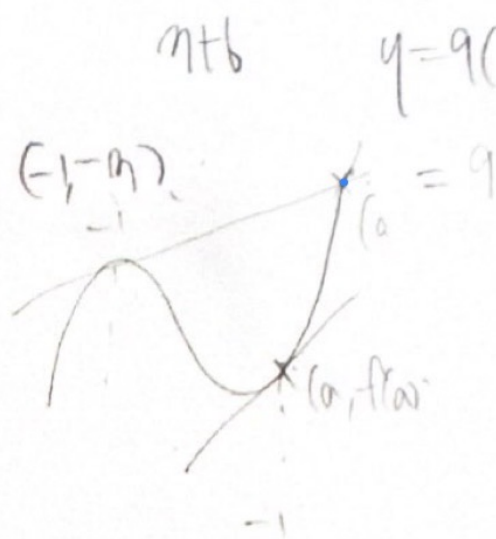
① 1

② 2

③ 3

④ 4

⑤ 5



Handwritten calculation:

$$(a+1)(3a^2-6a) = \frac{a^3-3a^2+1-1}{a+1}$$

Handwritten calculation:

$$a^3 - 3a^2 + 1 - 1 = a^3 - 3a^2$$

Handwritten calculation using synthetic division:

$$\begin{array}{r|rrrr} -1 & 1 & 0 & -3 & 1 \\ & & -1 & 3 & 0 \\ \hline & 1 & -1 & 0 & 1 \end{array}$$

$a = -1$

Handwritten equation:

$$2a^3 - 6a - 4 = 0$$

Handwritten equation:

$$a^3 - 3a^2 = 0$$

Handwritten equation:

$$(a+1)^2 = 0$$

[ 2학년 ] [ 수학Ⅱ ] ( 6 ) 쪽 중 ( 1 ) 쪽