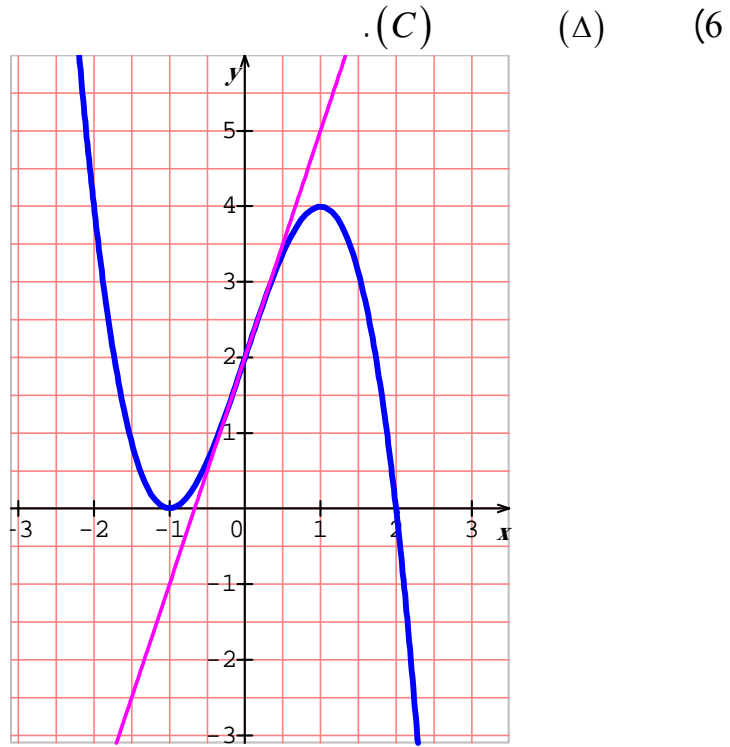


02:			
03 :	:	+	:
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	مجزأة																	
10		$f(x) = -x^3 + 3x + 2 : \quad \square \quad f$ $: f \quad (1)$ <p>01 $\lim_{x \rightarrow +\infty} f(x) = \lim_{x \rightarrow +\infty} (-x^3) = -\infty$ $\lim_{x \rightarrow -\infty} f(x) = \lim_{x \rightarrow -\infty} (-x^3) = +\infty$</p> <p>0.75 $f'(x) = -3x^2 + 3$</p> <p>0.75 $: f'(x)$</p> <p>$. f \quad -$</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">x</td> <td style="padding: 5px;">$-\infty$</td> <td style="padding: 5px;">-1</td> <td style="padding: 5px;">1</td> <td style="padding: 5px;">$+\infty$</td> </tr> <tr> <td style="padding: 5px;">$f'(x)$</td> <td style="padding: 5px;">-</td> <td style="padding: 5px;">0</td> <td style="padding: 5px;">+</td> <td style="padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">$f(x)$</td> <td style="padding: 5px;">$+\infty$</td> <td style="padding: 5px;">\searrow</td> <td style="padding: 5px;">\nearrow</td> <td style="padding: 5px;">$-\infty$</td> </tr> </table> <p>01 $: f(x) = (2-x)(x+1)^2 : \quad x \quad (2)$</p> <p>$(2-x)(x+1)^2 = (2-x)(x^2 + 2x + 1) = -x^3 + 3x + 2 = f(x)$</p> <p>$: \quad (C) \quad (3)$</p> <p>$(2-x)(x+1)^2 = 0 \quad f(x) = 0$</p> <p>$x = -1 \text{ و } x = 2 \quad (x+1=0) \text{ و } (2-x=0)$</p> <p>$B(-1;0) \text{ و } A(2;0) \quad (C)$</p> <p>$f''(x) = -6x \quad (4)$</p> <p>$(C) \quad x = 0 \quad f''(x)$</p> <p>$. I(0;2) :$</p> <p>$. f(1) = 4 \quad f(0) = 2 \quad (5)$</p> <p>01</p> <p>0.5</p> <p>0.5 $y = 3x + 2 : x_0 = 0 \quad (C) \quad (\Delta)$</p>	x	$-\infty$	-1	1	$+\infty$	$f'(x)$	-	0	+	0	$f(x)$	$+\infty$	\searrow	\nearrow	$-\infty$	
x	$-\infty$	-1	1	$+\infty$														
$f'(x)$	-	0	+	0														
$f(x)$	$+\infty$	\searrow	\nearrow	$-\infty$														

02.5



10

$$f(x) = \frac{2x+2}{x+2} : \quad R - \{-2\} \quad f$$

$$f(x) = a + \frac{b}{x+2} = \frac{ax+2a+b}{x+2} \quad (1)$$

01

$$f(x) = 2 - \frac{2}{x+2} \quad \left. \begin{array}{l} a=2 \\ b=-2 \end{array} \right\} \quad \left. \begin{array}{l} a=2 \\ 2a+b=2 \end{array} \right\}$$

01

$$\lim_{x \rightarrow -\infty} f(x) = \lim_{x \rightarrow -\infty} \frac{2x}{x} = 2 \quad \lim_{x \rightarrow +\infty} f(x) = \lim_{x \rightarrow +\infty} \frac{2x}{x} = 2 \quad (2)$$

0.5

$$\lim_{x \rightarrow -2^+} f(x) = \frac{-2}{0^+} = -\infty \quad \lim_{x \rightarrow -2^-} f(x) = \frac{-2}{0^-} = +\infty$$

$(C_f): (C_f)$

$$.x = -2$$

$$y = 2$$

01

$$f \quad f'(x) = \frac{2}{(x+2)^2} > 0 : f \quad (3)$$

01

x	$-\infty$	-2	$+\infty$
$f'(x)$	+		+
$f(x)$	$2 \nearrow +\infty$		$-\infty \nearrow 2$

$$x_0 = 0 \quad (C_f) \quad (T) \quad (4)$$

0.75

$$y = \frac{1}{2}x + 1:$$

$$\cdot (C_f) \quad A(-2;2) \quad (5)$$

$$: y = \frac{2x+2}{x+2} :$$

$$\left. \begin{array}{l} x = X - 2 \\ y = Y + 2 \end{array} \right\}$$

$$\cdot Y = \frac{-2}{X} \quad Y + 2 = \frac{2X - 2}{X}$$

0.75

$$A(-2;2) \quad h(X) = \frac{-2}{X} \quad h$$

0.5

$$: (C_f) \quad (6)$$

$$M(0;1) \quad (C_f) \quad f(0) = 1$$

$$(C_f) \quad x = -1 \text{ ȳ } 2x + 2 = 0 \quad f(x) = 0$$

0.5

$$N(-1;0)$$

01

$$\cdot f(-4) = 3 \quad f(-3) = 4 \quad f(2) = \frac{3}{2} \quad f(1) = \frac{4}{3} \quad (7)$$

02

$$(C_f) \quad (T) \quad (8)$$

