

$$f'(x) = -4 \cos^2(2x) \cdot \sin(2x) + 4ax$$

$$f'(x) = -4(\cos^2(2x) \sin(2x) + 2 \cos^2(2x)) + 4a$$

$$1 + b = 0 \Rightarrow b = -1$$

$$a = 7$$

$$a + b = 6$$

$$y' = 4x \quad (\alpha, \alpha^r - 1) \quad (\beta, \beta^r - 1)$$

$$\alpha^r = \beta^r \Rightarrow \alpha = -\beta$$

$$2\alpha = \frac{-1}{2\beta} \Rightarrow -2\beta = \frac{-1}{2\beta}$$

$$-4\beta^2 = -1 \quad \beta = \frac{1}{2}$$

$$\alpha = -\frac{1}{2}$$

$$\alpha^r - 1 = \frac{-1}{2}$$

$$f'(x) = \frac{4a}{(4x-1)^2}$$

$$4 = 4a + b \Rightarrow a = 4$$

$$14 = 0 + a - b \Rightarrow b = -9$$

$$\frac{a}{4x-1} = 4x - 9$$

$$a = 12x^2 - 4x - 12x + 9$$

$$-12x^2 + 4x - 9 = 12x^2 - 12x + 9$$

$$24x^2 - 16x + 18 = 0$$

$$f(x) = -\frac{1}{12}$$

$$y' = \frac{1-a^2}{(ax+1)^2} = 4$$

$$1 - a^2 = 4a^2 + 4a + 4 \Rightarrow 3a^2 + 4a + 3 = 0$$

$$\begin{cases} a = -1 & \text{غلق} \\ a = -\frac{1}{3} & \text{غلق} \end{cases}$$

$$\frac{a+1}{a+1} = 4 + b \Rightarrow b = -1$$

$$\int x + \frac{1}{4} \cos x = \frac{1}{4} \int x$$

$$\frac{1}{4} \cos x = \frac{1}{4} \int x \Rightarrow x = \frac{\pi}{4}$$

$$\left(\frac{\pi}{4}, \frac{\sqrt{2}}{4}\right) \quad f(x) = \cos x - \frac{1}{4} \int x \Rightarrow \frac{\sqrt{2}}{4} - \frac{\sqrt{2}}{4} = \frac{\sqrt{2}}{4}$$

$$y - \frac{\sqrt{2}}{4} = \frac{\sqrt{2}}{4} \left(x - \frac{\pi}{4}\right) \Rightarrow -\frac{\sqrt{2}}{4} = \frac{\sqrt{2}}{4} x - \frac{\pi\sqrt{2}}{16}$$

$$\frac{1}{4} x = \frac{-\sqrt{2}}{4} + \frac{\pi}{16} \Rightarrow \frac{\pi - 12}{16} \times 4 = \frac{\pi - 12}{4}$$

$$4x^2 - 4x - 12 = 0 \Rightarrow x^2 - x - 3 = 0 \quad (2, -19) \quad \frac{1+19}{-1-2} = -9$$

$$(x-2)(x+1) = 0 \Rightarrow \begin{cases} x=2 \\ x=-1 \end{cases} \quad (-1, 1)$$

$$4x^2 - 4x - 12 = -9 \Rightarrow 4x^2 - 4x - 3 = 0$$

$$4x^2 - 4x - 3 = 0 \Rightarrow \frac{4 \pm \sqrt{16}}{4} = \frac{4 \pm 4}{4}$$

6

$$\frac{-b}{4a} = \frac{-(k+1)}{4k} \quad \frac{-k-1}{4k} \leq 0 \Rightarrow \frac{k+1}{4k} \geq 0 \quad \frac{-1}{+1-1+}$$

$$\frac{4(k+1)}{4k} \leq 0 \quad kx+k+1 \geq 0 \quad \frac{-k-1+4k+4}{4} \geq 0$$

$$4k+4 \geq 0 \Rightarrow k \geq -1 \quad \boxed{k=-1} \quad \text{استقراض}$$

7

$$a-b-2 = -2 \Rightarrow a-b = 0$$

$$y' = 4x^2 + 4ax + b$$

(-1, -2) : عطف

$$y'' = 8x + 4a$$

$$-2 + 4a = 0 \Rightarrow a = \frac{1}{2} \Rightarrow b = 0 \quad \frac{a}{b} = \boxed{\frac{1}{0}}$$

8

$$f'(x) = 4x^2 + 4ax + b = 0 \Rightarrow b = 0 \quad c = 4$$

$$f''(x) = 8x + 4a$$

$$x(4x + 4a) = 0$$

↘ ↙ $\frac{-4a}{4}$

$$0 = \frac{-4a^2}{4} + \frac{4a^2}{4} + 4 \Rightarrow \frac{4a^2}{4} = -4$$

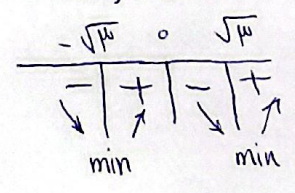
$$\Rightarrow a^2 = -4 \Rightarrow a = -2 \quad \min = 4$$

9

$$f(x) = 4x^2 - 12x = 0 \Rightarrow x(x-3) = 0 \Rightarrow x = 0, +\sqrt{3}, -\sqrt{3}$$

$$f'(x) = 8x - 12 = 0 \Rightarrow x = \pm 1.5$$

- (1, 3)
- (-1, 3)
- ($\sqrt{3}, -3$)
- ($-\sqrt{3}, -3$)



$$AB = +2\sqrt{3} \quad CD = 2$$

دوفا موازی
زاد = 2

10