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لينا ابراهيم شقار ١٢

$$y_{\max} = \frac{-D}{Fa} = v \rightarrow \frac{-(b^2 + 12)}{-k} = v \rightarrow b^2 + 12 = 28 \quad 1$$

$$\rightarrow b^2 = 16 \rightarrow \boxed{b = \pm 4}$$

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$$\text{الف) } f(x) = x^2 + 2x + 3 \quad t = x^2$$

$$t^2 + 2t + 3 \Rightarrow \Delta = b^2 - 4ac \rightarrow 4 - 12 = -8 < 0 \quad \text{ليس مقلد}$$

$$\text{ب) } f(x) = (4 - x^2)^2 - 2(4 - x^2) - 18$$

$$t = 4 - x^2 \rightarrow t^2 - 2t - 18 = 0 \rightarrow (t - 9)(t + 3) = 0$$

$$t = 9 \rightarrow 4 - x^2 - 9 = 0 \rightarrow x^2 = -5 \quad \text{غير حقيقي}$$

$$t = -3 \rightarrow 4 - x^2 + 3 = 0 \rightarrow x^2 = 7 \rightarrow \boxed{x = \pm \sqrt{7}}$$

$$S = \frac{-b}{a} \rightarrow \alpha + \alpha + 2 = \frac{14}{k} \rightarrow 2\alpha + 2 = k \rightarrow 2\alpha = k - 2$$

$$\alpha = 1, \beta = 3$$

$$P = \frac{c}{a} \rightarrow \frac{m}{k} = 1 \times k \rightarrow \boxed{m = 12} \quad kx^2 - 14x + 12 = 0$$

Δ > 0

$$2\alpha - \beta = k \rightarrow 2\alpha + 2\beta - 2\beta = k$$

$$2(\alpha + \beta) - 2\beta = k \rightarrow 2 - 2\beta = k \rightarrow \beta = 0$$

$$\alpha + \beta = 2 \rightarrow \alpha = 2$$

$$P = \frac{c}{a} = \frac{m-1}{k} = 0 \rightarrow m-1 = 0 \rightarrow \boxed{m = 1} \rightarrow kx^2 - 4x = 0$$

Δ > 0

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$$P=1 \rightarrow \frac{c}{a} = 1 \rightarrow \frac{m^r - r}{-m} = 1 \rightarrow m^r + m - r = 0 \quad -d$$

$$(m+r)(m-1) = 0$$

$$\boxed{m=1} \rightarrow -x^r + \varepsilon x - 1 = 0 \rightarrow \Delta > 0 \rightarrow 14 - 4 = 12 > 0 \quad \checkmark \quad (5)$$

$$\text{و } m = -r \rightarrow rx^r + rx + r = 0 \rightarrow \Delta = 0 \times 14 - 14 = 0$$

$$P = \alpha\beta = \frac{c}{a} = r \quad -f$$

$$\alpha\beta^r = r \rightarrow \alpha\beta \times \beta = r \rightarrow r\beta = r \rightarrow \beta = \frac{r}{r} \quad \alpha + \frac{r}{r} = r \rightarrow \alpha = \frac{r}{r} = 1$$

$$S = \alpha + \beta = -\frac{b}{a} \quad \frac{r}{r} + \frac{4}{\varepsilon} = m \rightarrow \boxed{m = \frac{r^2}{12}} \quad x^r - \frac{\varepsilon r}{12} x + r = 0 \quad \Delta > 0 \quad (5)$$

$$B = r\alpha \quad S = \alpha + \beta = -\frac{b}{a} \rightarrow r\alpha = \varepsilon \rightarrow \alpha = 1 \quad -v$$

$$P = \frac{c}{a} = \alpha\beta \rightarrow \boxed{m = r} \quad \beta = r\alpha = r \quad (5)$$

$$\rightarrow x^r - rx + r = 0 \rightarrow \Delta > 0$$

$$\alpha^r - v\alpha + r = 0 \rightarrow \alpha^r + r = v\alpha \quad -\Lambda$$

$$(\alpha)^r + \left(\frac{r}{\alpha}\right)^r \Rightarrow \left(\alpha + \frac{r}{\alpha}\right) \left(\alpha^r + \frac{r}{\alpha^r} - r\right) \rightarrow \alpha + \frac{r}{\alpha} = \frac{\alpha^r + r}{\alpha} = \frac{v\alpha}{\alpha} = v$$

$$\alpha^r + \frac{r}{\alpha^r} = \frac{\alpha^r + r}{\alpha^r} \rightarrow \frac{(\alpha^r + r)^r - r\alpha^r}{\alpha^r} = \frac{(\alpha^r + r)^r}{\alpha^r} - \frac{r\alpha^r}{\alpha^r} = r^4 - \varepsilon = \varepsilon d$$

$$\left(\alpha + \frac{r}{\alpha}\right) \left(\alpha^r + \frac{\varepsilon}{\alpha^r} - r\right) = v(r^4 - r) = (r^4 - r) \quad (5)$$

-9. α نوبت منف $\max$

$$x_s = \frac{-b}{ra} = \frac{-d}{-r} = \frac{d}{r}$$

$$y_s = -1 \cdot \left(\frac{rd}{\varepsilon}\right) + d \cdot \left(\frac{d}{r}\right) = 42, \quad d = \max \quad (5)$$

$$-1 \cdot t^r + d \cdot t = 0 \rightarrow t(-1 \cdot t + d) = 0 \rightarrow t = 0 \quad s$$

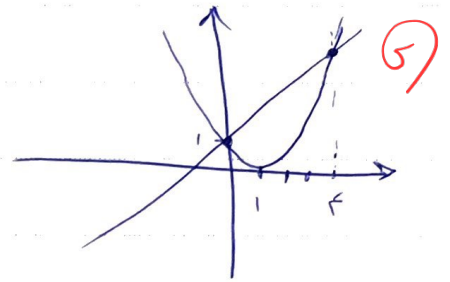
$$\boxed{t = ds}$$

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ا) $(x-1)^2 - 2x + 1 \rightarrow x^2 - 2x + 1 - 2x + 1 \rightarrow x^2 - 4x = 0 - 1^2$
 $\rightarrow x(x-4) = 0 \rightarrow \boxed{x = 0, 4}$ جواب دار



ب) $x^2 + 2x = (x+1) \rightarrow x^2 + 2x - x - 1 = 0 \rightarrow x^2 + x - 1 = 0$
 $\rightarrow \boxed{x = -2, 1}$ جواب دار

