

$$\frac{-\Delta}{f_a} = v \Rightarrow \frac{f_{ac} - b^r}{f_a} = v \rightarrow f_{ac} - b^r = v f_a$$

$$-12 = b^r = -18$$

$$\Rightarrow 19 = b^r$$

$$\Rightarrow b = \pm f$$

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الف) $t^2 + 2t + 3 = 0 \rightarrow \Delta = 4 - 4(3)(1) \rightarrow \Delta < 0 \rightarrow$ تابع حقیقی ندارد

ب) $t^2 - 4t - 15 \rightarrow (t - 5)(t + 3)$

$t - 2^r = -3 \checkmark \quad t = -3$

$(5) X \Rightarrow f - 2^r = -3 \Rightarrow x^r = v \quad \boxed{x = \pm \sqrt{v}}$

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$f_{2^r} - 19x + m$

$\omega_{2^r} = a, a + r$

$S = f = 2a + r \rightarrow \boxed{a = 1} \Rightarrow \omega_{2^r} = \underline{1, 3}$

$p = \frac{c}{a} = \frac{m}{f} = 3 \Rightarrow \underline{m = 12}$

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$2x^r - 9x + m - 1$

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

$\alpha + \beta = \frac{f - \beta + 2\beta}{2} = \frac{f + \beta}{2} = 2$

$\Rightarrow \boxed{\beta = 0}$

$2\alpha - \beta = f$

$2\alpha = f \Rightarrow \boxed{\alpha = 1}$

$\rightarrow p = \frac{m-1}{2} = 0$

$\Rightarrow m-1=0 \Rightarrow \boxed{m=1}$

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$p = 1 \Rightarrow \frac{m^r - r}{-m} = 1$

$m^r - r = -m$

$m^r + m - r = 0$

$(m-1)(m+1)$

$\boxed{\begin{matrix} m=1 \rightarrow \checkmark \\ m=2 \rightarrow X \end{matrix}}$

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$$a^r - m\alpha + r = 0$$

$$\alpha\beta(B) = r \Rightarrow \boxed{B = \frac{r}{\alpha}}$$

$$P = \alpha\beta = (r)$$

$$\frac{ra}{r} = r \Rightarrow ra = r \Rightarrow \boxed{a = \frac{r}{r}}$$

$$\alpha + \beta = \frac{9}{r} + \frac{r}{r} = \frac{r^2 + 14}{1r} = \frac{r^2}{1r}$$

$$\Rightarrow m = -\frac{r^2}{1r}$$

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$$2x^r - 8x + m$$

$$S = \frac{r}{1} = rx \Rightarrow \boxed{x=1}$$

$$\frac{m}{1} = p = r \Rightarrow \boxed{m=r}$$

$$62, \quad 2, \quad r, \quad x$$

$$\boxed{1, r}$$

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$$\alpha^r + \frac{1}{\alpha^r} = \left(\alpha + \frac{r}{\alpha}\right) \left(\alpha^r + \frac{r}{\alpha^r} - r\right) \Rightarrow$$

$$\alpha + \beta = r$$

$$\alpha\beta = r$$

$$\Rightarrow a = \frac{r}{\beta}$$

$$\boxed{B = \frac{r}{\alpha}}$$

$$(\alpha + \beta)(\alpha^r + \beta^r - r)$$

$$(r)(r^2 - r - r)$$

$$r \times r^2 = \boxed{r^3}$$

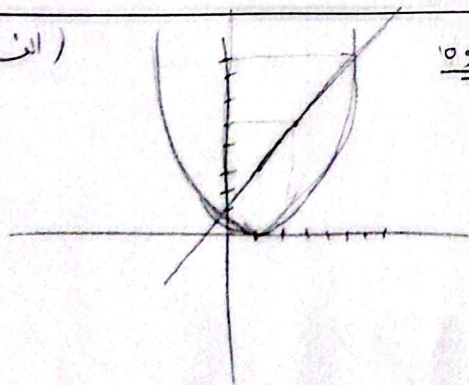
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$$y = -\ln x^r + \omega_0 x \rightarrow \max = \frac{-r\omega_0 -}{-r} = \boxed{r, \omega_0}$$

$$\text{نایم برضور} = -\ln x^r + \omega_0 x \rightarrow x = \begin{cases} \omega \\ 0 \end{cases} \checkmark$$

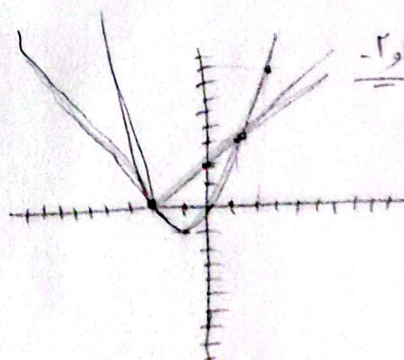
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(الف)



2, 2, 2, 2

(ب)



2, 2, 2, 2

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