

سوال (۱۰)

$$\frac{b}{a} = \frac{r}{p} = \sqrt{x^2} \Rightarrow x^2 = \frac{r}{a} \Rightarrow x = \frac{r}{a} \text{ و } -\frac{r}{a}$$

سوال (۲۰)

$$\frac{a}{p} = \alpha + \beta \rightarrow \frac{a}{p} = \frac{\alpha}{p} + \frac{\beta}{p} \rightarrow a = \pm 1 \rightarrow \text{انتخاب ۱۴}$$

سوال (۲۰)

$$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}} = \omega \rightarrow \frac{1}{a} + \frac{1}{b} + \frac{2}{\sqrt{ab}} = \omega^2 \rightarrow \frac{a+b}{ab} + \frac{2}{\sqrt{ab}} = \omega^2$$

$$p = \frac{1}{\sqrt{4}} \quad 34S + 12 = 2\omega \rightarrow S = \frac{13}{34}$$

$$\frac{m+1f}{34} = \frac{12}{34} \rightarrow m = -1 \Rightarrow \text{مقدار } \frac{p}{-1} = -p = -2$$

سوال (۳)

$$\Rightarrow (n-a)(n-b) = n^2 - an - 2$$

$$n^2 - n - 2 \xrightarrow{\text{فصل کردن}} \begin{array}{r} \varepsilon n^2 + 4n^2 - 9n - 2 \mid n^2 - n - 2 \\ \varepsilon n^2 - \varepsilon n^2 - 1n \quad \mid \varepsilon n + (4\varepsilon) \\ (4\varepsilon + 1)n^2 - n - 2 \end{array}$$

برابر با ۰ $\rightarrow \boxed{4\varepsilon = -3}$

سوال (۴۰)

$$r(S^2 - 2p) + \alpha^2 \rightarrow r(34 - 2a) \quad a < 0$$

$$vr - 2a + \alpha^2 = 18\omega + 12\sqrt{p} \rightarrow -2 \pm \sqrt{34 - 2a}$$

$$vr - 2a + \alpha^2 = 18\omega + 12\sqrt{p} \rightarrow -2 \pm \sqrt{9 - a} \rightarrow \alpha = -3 - \sqrt{9 - a}$$

$$vr - 2a + (-3 - \sqrt{9 - a}) = 18\omega + 12\sqrt{p}$$

$$vr + 11 - 2a + 4\sqrt{9 - a} = 18\omega + 12\sqrt{p} \rightarrow \boxed{a = 1}$$

سوال (۵۰)

$$x^2 - vx^2 - \omega = 0 \rightarrow x^2 - vx^2 - \omega = 0 \rightarrow x^2 - vx^2 - \omega = 0$$

$$\frac{v + \sqrt{49 + 2}}{2} = x^2 \Rightarrow x = \pm \sqrt{m} \Rightarrow m = \frac{v + \sqrt{49 + 2}}{2}$$

$$\frac{v + \sqrt{49}}{-2} \Rightarrow 2 \times \left(\frac{v + \sqrt{49}}{-2} \right)^2 = \frac{1}{p} (v + \sqrt{49})^2 = \frac{1}{14\sqrt{49}} (v + \sqrt{49})^2$$

$$\frac{111 + 11\sqrt{49}}{2} = \boxed{59 + \sqrt{49}}$$

$$2x^2 - an + b = 0$$

$$x + \frac{1}{x} = y + \frac{1}{y} \quad (\text{سوال ۲})$$

$$2an^2 + an - 4 = 0$$

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

$$x + y = -\frac{1}{x} \rightarrow \frac{-a}{2a}$$

$$\frac{x+y+1}{+\frac{1}{x}} = \frac{a}{x} \Rightarrow a = 1$$

$$\frac{-4}{x} = -3 = xy \rightarrow \frac{xy}{-3} + \frac{1}{x} + \frac{1}{y} (x+y) = \frac{b}{x} \Rightarrow \boxed{b = -4}$$

$$x + B = 1 \rightarrow -B + 1 = x$$

(سوال ۷)

$$r_0 a^2 + r_0 B^2 + r_0 B^2 - r_0 B = 14$$

$$r_0 (1-B)^2 + r_0 B^2 + r_0 B^2 - r_0 B = 14 \rightarrow r_0 B^2 - \epsilon_0 B + r_0 + r_0 B^2 - r_0 B = 14$$

$$r_0 B^2 - \epsilon_0 B + r_0 = 0 \rightarrow B^2 - B + \frac{1}{r_0} = 0 \rightarrow x^2 - x + \frac{1}{r_0} = 0$$

$$\frac{\Delta}{4a} = 1 - 4 \left(\frac{1}{r_0} \right) \rightarrow \sqrt{1 - \frac{4}{r_0}} \rightarrow \sqrt{\frac{\epsilon_0}{a}} = \left(\frac{r_0}{4a} \right)$$

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

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(سوال ۸)

$$x, x+2$$

$$a+1 = 2x+2$$

$$\frac{a-1}{x} = x \rightarrow x^2 + 2x = a$$

$$x^2 - (3a+1)x + b = 0$$

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$$\frac{a^2 + 1 - 2a}{x} + a - 1 = 0$$

$$y, y+2$$

$$3a+1 = 2y+2$$

$$\frac{3a-1}{y} = y$$

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

$$a = 3 \leftarrow \text{فرضیه صحیح است} \leftarrow \begin{pmatrix} 3 و 1 \end{pmatrix} \text{ یا } \begin{pmatrix} 1 و 3 \end{pmatrix} = 1 \text{ و } 3 = 4 \text{ زوج} \leftarrow \begin{pmatrix} 4 و 4 \end{pmatrix} \text{ یا } \begin{pmatrix} -4 و -2 \end{pmatrix}$$

$$2x^2 - 3 = 0$$

$$\Delta > 0 \Rightarrow 1 + m^2 + 4 > 0 \Rightarrow \checkmark$$

$$m = 0$$

(سوال ۹)

$$a^2 + B^2 = 1 + 1 + m^2 \rightarrow \text{بردار} = [3 و 5] \Rightarrow m = 0 \text{ و } 3 = \text{کمترین مقدار}$$

$$(-0, y) \quad (x, y) \rightarrow x_{\text{max}} = -1$$

(سوال ۱۰)

$$a(x+1)^2 + 1 \quad an^2 + 2an + a+1 \rightarrow s^2 - 2p = a \Rightarrow$$

$$-\frac{2}{3}x^2 - \frac{2}{3}x + \frac{1}{3} = 0$$

$$x^2 - 2\left(\frac{a+1}{a}\right) = a$$

$$2\left(\frac{a+1}{a}\right) = -1 \Rightarrow$$

$$2a+2 = -a$$

$$a = \left(\frac{-2}{3} \right)$$

$$y = \left(\frac{1}{x} \right)$$