

$$y = (a-1)m^2 + m + c \quad \text{Given } m = \frac{1}{2}, -\frac{c}{2} \quad \text{حل المسألة 11}$$

$$m = \frac{-b}{2a} = \frac{-1}{2(a-1)} \quad \frac{-1}{2(a-1)} = \frac{1}{2} \rightarrow 2a = c \rightarrow a = \frac{c}{2}$$

$$y = -\frac{1}{2}m^2 + m + c \xrightarrow{a=\frac{c}{2}} -\frac{1}{2}y = m^2 - 2m - 1c \rightarrow -2y = (m - \frac{2}{2})(m + \frac{2}{2})$$

$$(m + \frac{c}{2})(m - \frac{1}{2})$$

$$f(m) = mm^2 - am + em$$

m.c.



m	m ₁	m ₂
f(m)	-	+

المسألة 12

$$1 < a \rightarrow b^2 - 2a = 10 - 2m^2 \quad 1 < 20 = 2a^2 \rightarrow -\frac{3}{2} < m < \frac{3}{2}$$

$$\omega_{\text{دور}} = \frac{r \cdot \omega}{r} = \frac{r \cdot \omega}{r}$$

$$S = \alpha + \beta = 1 - \sqrt{\frac{2}{3}} + 1 + \sqrt{\frac{2}{3}} = 2$$

$$y = m^2 - 2m + \frac{2}{9}$$

$$P = \alpha \cdot \beta = (1 - \sqrt{\frac{2}{3}})(1 + \sqrt{\frac{2}{3}}) = 1 - \frac{2}{3} = \frac{1}{3}$$

$$y_1^2 - 14x + m + 1 = 0$$

$$\alpha < \beta$$

$$y_1^2 + y_2^2 = 14$$

$$m = ?$$

$$m = -\sqrt{2} \quad m + \sqrt{2} = 0$$

12

$$S = \frac{1}{r} = 2$$

$$r\alpha^2 + \alpha^2 + r\beta^2 - 13 = 14$$

$$2m + 2 = 2m - 2 = 14$$

$$P = \frac{-(m+1)}{r}$$

$$r(\alpha^2 + \beta^2) + \alpha^2 - \beta^2 = 14 \rightarrow r(2m + 2) - r(m + 1) = 14$$

$$\frac{(r-1)(r+1)}{-(m+1)} = 14$$

$$\alpha^2 + \beta^2 = S^2 - 2P = 14 + 2(m+1) = 2m + 16$$

$$S(2, 9)$$

المسألة 13

$$y = a(m - h)^2 + k \rightarrow y = a(m - 2)^2 + 9 \xrightarrow{(2)} a = 2a + 9 \rightarrow a = -1$$

$$y = -(m - 2)^2 + 9 \rightarrow y = -m^2 + 4m - 4 + 9 = -m^2 + 4m + 5$$

$$am^2 - 4m + 9 = 0$$

$$- < \beta$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{4}{9} \quad \frac{\alpha + \beta}{\alpha \cdot \beta} = \frac{4}{9} = \frac{4}{9} = \frac{4}{9}$$

$$\alpha \cdot \beta = \frac{9}{4}$$

$$\alpha + \beta = \frac{4}{9}$$

$$\alpha = c \rightarrow \beta = \frac{4}{9} - c = \frac{4}{9} - c$$

$$1 = \frac{9}{\alpha} \rightarrow \alpha = 9, -c$$

$$\alpha = -c \rightarrow \beta = -\frac{4}{9} + c = \frac{4}{9} - c$$

$$m^2 + mm - 4m = 0$$

$$\alpha^2 - m\beta = 14$$

$$\alpha + \beta = \frac{4}{9}$$

$$\alpha + \beta = \frac{4}{9} \rightarrow \alpha + \beta = \frac{4}{9}$$

14

$$\alpha + \beta = -m$$

$$P = -2m$$

$$S = -m$$

$$\alpha^2 + (\alpha + \beta)\beta = 14$$

$$\alpha^2 + \alpha\beta + \beta^2 = 14 \rightarrow S^2 - 2P + P = S^2 - P = m^2 + 2m = 14 \rightarrow m^2 + 2m - 14 = 0$$

$$(m+2)(m-7) = 0$$

$$m = 7, -2$$

$$f(m) = m^2 + \varepsilon m + \frac{m}{\varepsilon} + 14$$

45?

حل المسألة - 1

$$y = -\frac{D}{2a} = -\left(\frac{b^2 - \varepsilon a c}{\varepsilon a}\right)$$



$$y = \frac{-b \pm \sqrt{D}}{2a}$$

$$y = 14 - \varepsilon(m) \left(\frac{m+14}{\varepsilon} \right) \rightarrow y = 14 - \varepsilon(m)(m+14) = \frac{14 - \varepsilon m^2 - 14\varepsilon m}{\varepsilon} \rightarrow m^2 + 14m - \varepsilon = 0$$

$$\frac{-D}{\varepsilon a} = \frac{14 - \varepsilon m^2 - 14\varepsilon m}{\varepsilon m} = 1 \rightarrow 14 - \varepsilon m^2 - 14\varepsilon m = \varepsilon m \rightarrow \varepsilon m^2 + 15\varepsilon m - 14 = 0$$

$$\rightarrow m = 2 \rightarrow \varepsilon m^2 + \varepsilon m + 9 \rightarrow p_1 \frac{9}{\varepsilon} > 0 \quad \text{و } \frac{9}{\varepsilon}$$

$$(m - \frac{1}{\varepsilon})(m + \frac{1}{\varepsilon}) = 0 \rightarrow (m - \frac{1}{\varepsilon})(m + \frac{1}{\varepsilon}) = 0$$

$$\rightarrow m = -\frac{1}{\varepsilon} \rightarrow -\varepsilon m^2 - \varepsilon m + 9 \rightarrow p = -\frac{9}{\varepsilon} \quad \text{و } \frac{9}{\varepsilon}$$

$$m = \varepsilon, -\frac{1}{\varepsilon}$$

$$y = -(\varepsilon m^2 + \varepsilon m + 9) \rightarrow y = -\varepsilon m^2 - \varepsilon m - 9 = -(m + \frac{1}{2})^2 - \frac{37}{4} \rightarrow m = -\frac{1}{2} \rightarrow y = -\frac{37}{4}$$

$$\alpha = \frac{1}{\varepsilon}, \beta = \frac{1}{\varepsilon}$$

-10

$$\varepsilon a^2 - 4a + c - 14a - \varepsilon = 0 \rightarrow (\varepsilon a^2 - \varepsilon a - 1) = 0 \quad (a - \frac{1}{\varepsilon})(a + \frac{1}{\varepsilon}) = 0 \rightarrow a = \frac{1}{\varepsilon}, -\frac{1}{\varepsilon}$$

$$S = +(\varepsilon a + \varepsilon) = -\frac{\varepsilon}{\varepsilon} + \varepsilon = \frac{1}{\varepsilon} \rightarrow \frac{1}{\varepsilon} + \frac{1}{\varepsilon} = \frac{1}{\varepsilon} \rightarrow \beta = \frac{1}{\varepsilon}$$

$$y = a(m - h_0)^2 + k \rightarrow y = a(m - r)^2 + y \quad (r)$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{4+13}{9.13} = \frac{17}{117} = \frac{1}{7} = -1 \quad -9$$

$$\varepsilon = \varepsilon a + y \rightarrow a = -1$$

$$y = -(m - r)^2 + y$$

$$y = -m^2 + (m - \varepsilon + 4) = -m^2 + m + r$$