

۱۲، ۲۵

تکلیف ۱۶

یازدهم ریاضی ۲

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①

$$m = \frac{2-4}{4+2} = \frac{-2}{6} = -\frac{1}{3}$$

$$\frac{2+4}{2} = 3$$

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

①

$$\Rightarrow m' = 3 \quad m = \frac{y_2 - y_1}{x_2 - x_1} = 3 \quad \text{عمود} \Rightarrow O(2, 1) \checkmark$$

$$\Rightarrow y - 1 = 3(x - 2) \Rightarrow y = 3x - 5$$

$$y - 1 = \frac{1}{3}(x - 2) \Rightarrow y = \frac{x}{3} + \frac{1}{3}$$

②

$$\begin{vmatrix} -1 & -4 & 3 \\ 3 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} = \frac{-10}{2} = -5 \Rightarrow S = 0$$

①، ۷۵

$$\sqrt{BC} = \sqrt{(-4+1)^2 + (3-2)^2} = \sqrt{10} \quad \text{فاصله} = 5 - 2 = 3 \checkmark$$

$$\frac{AH \times BC}{2} = 5 \Rightarrow \frac{AH \times \sqrt{10}}{2} = 5 \Rightarrow AH = \sqrt{10} \checkmark$$

③

$$x^2 y - 4x - 2 = 0$$

$$x^2 y - x - 2 = 0$$

②

$$x^2 y - 2x - 12 = 0$$

$$\Rightarrow a = 2$$

$$\Rightarrow \frac{|-12+2|}{\sqrt{2+16}} = \frac{10}{\sqrt{18}}$$

$$\Rightarrow \frac{10}{\sqrt{18}} = 2r \Rightarrow r = \frac{5}{\sqrt{2}} \Rightarrow S = r^2 \theta = \frac{9\pi}{2} \checkmark$$

$$m_n = \frac{r+r}{r} = 2$$

$$m_y = \frac{r+1}{r} = 2 \Rightarrow m(r, r) \checkmark$$

(1,2)

(1,2)

$$M_{AB} = \frac{1-r}{r-1} = -1 \Rightarrow y-r = -(x-1) \Rightarrow y = -x+2 \checkmark$$

$$\Rightarrow M_{CH} = 1$$

$$\Rightarrow y+1 = x+2$$

$$C(-1, -3) \rightarrow$$

$$\Rightarrow y = x+2$$

$$\Rightarrow x+2 = -x+2$$

$$\Rightarrow x = 1 \quad 1, 2$$

$$\Rightarrow y = 3 \quad 1, 2$$

$$\sqrt{(1-1)^2 + (3-2)^2} = 1 \times \sqrt{1} = 1$$

(1,2)

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

$$\Rightarrow r_m + m - 1 = -r_m + r_m - 1 + 2m$$

$$\Rightarrow 2m^2 - 13m + 18 = 0 \Rightarrow \Delta = 149 - 144 = 5$$

$$\Rightarrow \Delta < 0$$

$\Rightarrow$ لا يوجد حل

$$\left. \begin{aligned} x + 2y + 1 &= 1 \\ x + y &= 1 \end{aligned} \right\} \Rightarrow y = -1 \Rightarrow x = 2$$

$$\Rightarrow B \left(\frac{0}{2}, -1 \right) \checkmark$$

④
①

$$\left. \begin{aligned} y &= 1 - x \\ y &= x - 1 \end{aligned} \right\} \Rightarrow 1 - x = x - 1 \Rightarrow 2x = 2$$

$$\Rightarrow x = \frac{2}{2} \Rightarrow y = \frac{1}{2} \Rightarrow C \left(\frac{0}{2}, \frac{1}{2} \right) \checkmark$$

$$\left. \begin{aligned} y &= x - 1 \\ x + 2y &= 2 \end{aligned} \right\} \Rightarrow x + 2(x - 1) = 2 \Rightarrow 3x - 2 = 2 \Rightarrow 3x = 4 \Rightarrow x = \frac{4}{3}$$

$$\Rightarrow y = 1 \Rightarrow A \left(1, 1 \right) \checkmark$$

$$\frac{2 + \frac{1}{2}}{2} = \frac{5}{4}$$

$$\frac{-1 + \frac{1}{2}}{2} = \frac{-1}{4}$$

$$\Rightarrow M = \begin{pmatrix} \frac{1}{2} & \frac{1}{2} \\ \frac{1}{2} & \frac{1}{2} \end{pmatrix} \checkmark$$

$$M_{BC} = \frac{-1 - \frac{y}{r}}{\delta - \frac{\delta}{r}} = \frac{-\frac{1}{r}}{\frac{1}{r}} = -1 \Rightarrow M_{AH} = 1$$

$$y - 1 = m - 1 \Rightarrow y = m - 1$$

$$A(1,1) \rightarrow AM = \frac{\sqrt{d_0}}{r}$$

$$\Rightarrow m - 1 = 1 - m \quad BC: A \text{ فوق } AH = \frac{|1 + 1 - 1|}{\sqrt{1+1}} = \sqrt{2}$$

$$2m = 2 \Rightarrow m = 1 \Rightarrow y = 1$$

$$\frac{AM}{AH} = \frac{d}{r}$$

$$\int \left(\frac{r-1}{r} \right)^2 + \left(1 - \frac{r}{r} \right)^2 = \left(\frac{\sqrt{r}}{r} \right)$$

~~ax + by~~

$$\frac{|c|}{\sqrt{a^2 + b^2}} = \sqrt{2}$$

(✓)

(2)

$$y = \frac{1}{r}x + b \Rightarrow ry + x - rb = 0$$

$$\Rightarrow \frac{|c|}{\sqrt{a}} = \sqrt{2} \Rightarrow 1 = |c|$$

$$\Rightarrow 1 = |-rb| \Rightarrow d = |-b|$$

$$\Rightarrow b = \pm d \Rightarrow \begin{array}{l} y = d - \frac{x}{r} \quad x=0 \Rightarrow y=d \\ y = -d - \frac{x}{r} \quad x=0 \Rightarrow y=-d \\ \Rightarrow x=1 \Rightarrow y=0 \\ \Rightarrow x=-1 \Rightarrow y=0 \end{array}$$

$$\Rightarrow \sqrt{1 + 2d} = 2\sqrt{d} \quad \checkmark$$

(1)

جواب صفی آخذ ...

$$m(20-2) \Rightarrow \begin{vmatrix} x-2 \\ y+2 \end{vmatrix} \quad y' = \frac{2}{m+2} - 2 \quad (9)$$

$$\Rightarrow y' = 2n + 1 + \frac{2}{y+2}$$

$$\Rightarrow y = \cancel{2n+1}$$

جواب صغی اخذ ...

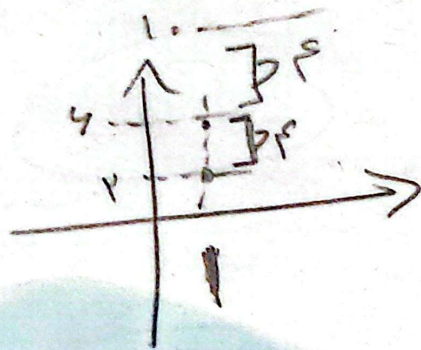
$$m = 1 \Rightarrow m' = -1$$

$$\Rightarrow y+2 = -1(n-1) \Rightarrow y = -n+1 \quad \checkmark$$

$$\Rightarrow -n+1 = n+1 \Rightarrow n = -1$$

بیانین A و A'

$$\Rightarrow A'(1, 0) \Rightarrow y = 1 \quad (10)$$



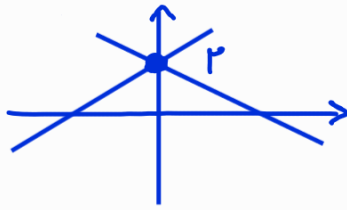
$$\frac{1+a}{2} = -1 \rightarrow a = -3$$

$$\frac{2+b}{2} = 1 \rightarrow b = 4$$

$$\rightarrow 2b - a = 15$$

$$y = \frac{f}{m}x + 2$$

$$y = (1-m)x + 2$$



هر دو خط در نقطه
(۰، ۲) متقاطع اند پس ارتفاع
مثلث ۲ واحد است

حالا من ریم سلیخ محل برخوردشون با محور x:

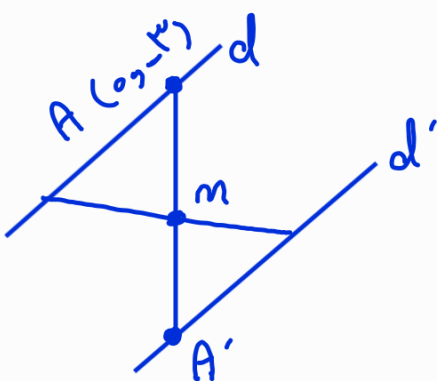
$$y = \frac{f}{m}x + 2 \xrightarrow{y=0} x = -\frac{m}{f}$$

$$y = (1-m)x + 2 \xrightarrow{y=0} x = \frac{2}{m-1}$$

$$\Delta \text{ فاصله} = \left| \frac{2}{m-1} - \left(-\frac{m}{f}\right) \right|$$

$$S_{\Delta} = \left| \frac{m^2 - m + f}{2(m-1)} \right| \times 2 \times \frac{1}{2} = \frac{5}{2} \rightarrow \begin{cases} \text{مقدار اول: } m = 3 \\ \text{مقدار دوم: } \Delta > 0 \rightarrow \frac{c}{a} = -1 \end{cases}$$

حاصل ضرب مقادیر $m \leftarrow (-3)$



نقطه $A(0, -3)$ روی خط $y = 2x - 3$
قرار دارد، M میانه میانی بین دو نقطه A و A' :

$$\frac{\alpha + 0}{2} = 2 \rightarrow \alpha = 4$$

$$\rightarrow A' \left| \begin{matrix} 4 \\ -1 \end{matrix} \right.$$

$$\frac{\beta - 3}{2} = -2 \rightarrow \beta = -1$$

حالا دو خط d و d' با هم موازی‌اند و شیب برابر دارند:

$$d': y - (-1) = 2(x - 4) \rightarrow y = 2x - 9$$