

$$m = \frac{\lambda + y}{r - k} = -v$$

$$-vm' = -1 \quad m' = \frac{1}{v}$$

نقطه وسط
یا مرکز

$$\begin{cases} x = \frac{r+k}{r} = v \\ y = \frac{\lambda-y}{r} = 1 \end{cases}$$

$$y-1 = \frac{1}{v}(x-v)$$

$$\boxed{y = \frac{1}{v}x + \frac{r}{v}} \quad \checkmark$$

$$m_{BC} = \frac{v-v}{-r+1} = \frac{-r}{r}$$

$$y-1 = \frac{r}{r}(x-v)$$

$$-\frac{r}{r} \times m_{AH} = -1 \quad m_{AH} = \frac{r}{r}$$

$$ky = vx - \lambda$$

$$y-v = -\frac{r}{r}(x+1)$$

$$ry = -rx + \lambda$$

$$\begin{cases} ry = vx - \lambda \\ cy = -rx + \lambda \end{cases}$$

$$\begin{cases} 12y = 9x - 1\lambda \\ 12y = -17x + 2\lambda \end{cases}$$

$$\begin{aligned} 25x &= 2\lambda \quad x = \frac{2\lambda}{25} \\ y &= -\frac{1}{\lambda} \end{aligned}$$

$$\overline{BC} = \sqrt{(r+1)^2 + (v-r)^2} = \lambda \quad \checkmark$$

$$\overline{AH} = \sqrt{(r-\frac{v}{\lambda})^2 + (1+\frac{1}{\lambda})^2} = r \quad \checkmark$$

$$\overline{BC} - \overline{AH} = r \quad \checkmark$$

$$ky - rx = 1k$$

$$ky - ax = r$$

$$\frac{|1k-r|}{\sqrt{17+k}} = \frac{1r}{r\sqrt{\lambda}} = \frac{y}{\sqrt{\lambda}} \quad ry = \frac{y}{\sqrt{\lambda}} \quad r = \frac{r}{\sqrt{\lambda}}$$

$$S = \pi r^2 = \frac{9}{\lambda} \pi \quad \checkmark$$

$$m_{AB} = \frac{v-1}{r-k} = -1$$

$$-1 \times m_{CH} = -1$$

$$m_{CH} = 1$$

$$\begin{cases} y = x - r \\ y = -x + \lambda \end{cases}$$

$$\begin{aligned} y &= \frac{r}{r} \\ x &= \frac{v}{r} \end{aligned}$$

$$y-1 = -1(x-r)$$

$$y = -x + \lambda$$

$$y+r = 1(x+1)$$

$$y = x - r$$

$$m = \left| \frac{r+k}{r} \right| = \left| \frac{r}{r} \right|$$

$$m_H = \sqrt{(r-\frac{v}{r})^2 + (r-\frac{r}{r})^2} = \sqrt{\frac{1}{r}} = \frac{\sqrt{r}}{r} \quad \checkmark$$

$$\frac{vm-r}{m-\lambda} \times \frac{m+1}{r-m-r} = -1$$

$$\frac{vm^2+m-r}{rvm^2-1km+2\lambda} = -1$$

$$\Delta m^2 - 1cm + 1\lambda = 0$$

$$\Delta < 0 \Rightarrow \text{بازار هیچ مقدار} \quad \checkmark$$

$$A: \begin{cases} x+ry = v \\ y-rx = -1 \end{cases} \quad \begin{aligned} x &= 1 \\ y &= 1 \end{aligned}$$

$$B: \begin{cases} x+ry = v \\ x+y = r \end{cases} \quad \begin{aligned} y &= -1 \\ x &= \lambda \end{aligned}$$

$$C: \begin{cases} y = rx - 1 \\ x+y = r \end{cases} \quad \begin{aligned} x &= \frac{\lambda}{r} \\ y &= \frac{v}{r} \end{aligned}$$

$$m: \left| \frac{\frac{10}{r}}{\frac{v}{r}} \right|$$

$$\begin{cases} y = x \\ x+y = r \end{cases} \quad \begin{aligned} x &= r \\ y &= r \end{aligned}$$

$$m_{BC} \cdot m_{AH} = -1$$

$$\begin{aligned} y-1 &= 1(x-1) \\ y &= x \end{aligned}$$

$$\frac{\overline{AM}}{\overline{AH}} = \frac{\sqrt{(\frac{10}{r}-1)^2 + (\frac{v}{r}-1)^2}}{\sqrt{(r-1)^2 + (r-1)^2}} = \frac{\sqrt{\frac{\lambda}{r}}}{\sqrt{r}} = \frac{\lambda}{r} \quad \checkmark$$

$$y + \frac{1}{r}x + c = 0$$

$$A: \begin{vmatrix} -r & c \\ 0 & 0 \end{vmatrix} \quad B: \begin{vmatrix} 0 & 0 \\ -c & 0 \end{vmatrix}$$

$$\frac{|c|}{\sqrt{\frac{\lambda}{r}}} = \sqrt{r\lambda} \quad |c| = \lambda$$

$$\overline{AB} = \sqrt{(-rc-0)^2 + (0+c)^2} = |c|\sqrt{\lambda} = \lambda\sqrt{\lambda} \quad \checkmark$$

$$y + mx = x + r \xrightarrow{y=0} y = r$$

$$my - rx = rm \xrightarrow{y=0} y = r$$

$$\frac{r \times x}{r} = \frac{\Delta}{r} \quad x = \frac{\Delta}{r}$$

$$y + mx = x + r \xrightarrow{y=0} x = \frac{r}{m-1}$$

$$my - rx = rm \xrightarrow{y=0} x = -\frac{m}{r}$$

$$\left| \frac{r}{m-1} + \frac{m}{r} \right| = \frac{\Delta}{r}$$

$$\frac{r}{m-1} + m = \Delta$$

$$\frac{r}{m-1} + m = -\Delta$$

$$r + m^2 - m = \Delta m - \Delta$$

$$m^2 - \Delta m + \Delta = 0$$

$$m = r$$

$$r + m^2 - m = -\Delta m + \Delta$$

$$m^2 + rm - 1 = 0$$

$$S = -1$$

$$\frac{r}{m} = \frac{c}{x-1} = -c \quad \checkmark$$

$$y + r = r(x - r)$$

$$\text{معادله خط مورد نظر: } y - rx = -9 \quad \checkmark$$

$$y = rx - 9$$

$$y - rx = -9$$

$$-9 = \frac{-r + c}{r}$$

$$y - rx = -r$$

$$c = -9$$

$$1 \times m = -1$$

$$m = -1$$

$$y - r = -1(x - 1)$$

$$y = -x + c$$

$$\begin{cases} y = -x + c \\ y = x + \Delta \end{cases}$$

$$y = r$$

$$x = -1$$

$$A' = \begin{vmatrix} -r \\ y \end{vmatrix}$$

$$rb - a = 1r + c = 1\Delta \quad \checkmark$$