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$$M_{AB} = \frac{1 - (-4)}{2 - 4} = -V$$

$$M_{AB} = \frac{1}{2}$$

$$\left| \frac{2+4}{2} \right|$$

$$\left| \frac{1}{1} \right|$$

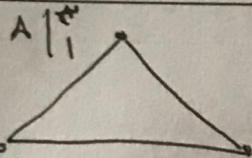
$$\frac{x}{2} + b = y$$

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

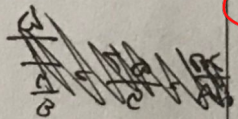
$$\frac{x}{2} + \frac{4}{2} = y \checkmark$$

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$$BC = \sqrt{(1-(-1))^2 + (V-2)^2} = 5 \checkmark$$



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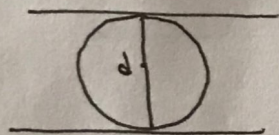
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$$BC \rightarrow \frac{-\frac{4}{5}x + \frac{5}{5}}{1} = y = -\frac{4}{5}x + 1$$

$$AH = \frac{|-1 - 1 + 4|}{\sqrt{1^2 + 4^2}} = \frac{2}{5}$$

$$\frac{1}{5} = \frac{2}{5} \times \frac{1}{2} \times 2$$

$$M_{BC} = \frac{1}{2} = \frac{1}{2} \checkmark \quad C(1, 2) \quad y - 2 = -\frac{4}{5}(x - 1)$$



$$\frac{|C - C'|}{\sqrt{A^2 + B^2}} = d \rightarrow \frac{|1 - 1|}{\sqrt{1^2 + 4^2}} = \frac{4}{5} = \frac{4}{5} \times \frac{1}{2} = \frac{2}{5} \quad r = \frac{2}{5}$$

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$$\frac{d}{r} = \frac{1}{2} \quad \checkmark$$

$$Py - 2x = 1$$

$$2y - 4x = 2$$

$$2r^2 = \frac{4}{5}$$

$$\frac{4}{5\pi}$$

$$M = \frac{\frac{1}{2} + 1}{\frac{1}{2} + 1}$$

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

$$M_{AB} = \frac{1}{2}$$

$$\begin{aligned} -a + b &= y \\ -1 + b &= c \quad b = a \end{aligned}$$

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$$\sqrt{(c/a - c)^2 + (1/a - 1)^2} = \frac{\sqrt{5}}{2} \checkmark$$

$$\begin{aligned} x + b &= y \\ -1 + b &= c \quad b = c \end{aligned}$$

$$\begin{cases} x + b = y \\ -x + b = y \end{cases} \quad \begin{aligned} x &= c/a \\ y &= 1/a \end{aligned}$$

$$H = \frac{c/a}{1/a}$$

$$\frac{1 - cm}{a - m} = \frac{1 - cm}{m + 1}$$

$$(m + 1)(1 - cm) = (1 - cm)(a - m)$$

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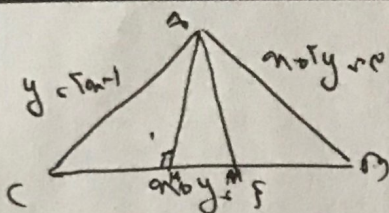
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$$1m - 1m = 1 - cm = 1 - 1cm = 1 - 1m = 1m \rightarrow a - m = 1 \quad \checkmark$$

$$(a - m - 1)(a - m) = (m + 1)(a - m - 1)$$

خط ندارد هیچ مقدار m

$$\frac{1}{m+1} = \frac{1}{a}$$



$$A \begin{cases} x+y=1 \\ x-y=1 \end{cases} \quad y=0 \quad x=1 \quad A \begin{vmatrix} 1 & 1 \\ 1 & -1 \end{vmatrix} \checkmark$$

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$$B \begin{cases} x+y=1 \\ x-y=1 \end{cases} \quad y=1 \quad x=0$$

$$C \begin{cases} x+y=1 \\ x-y=1 \end{cases} \quad y=0 \quad x=1$$

$$AH = \frac{|1-1|}{\sqrt{1+1}} = \frac{0}{\sqrt{2}} = 0$$

$$AM = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{1}{2}\right)^2} = \frac{\sqrt{2}}{2}$$

1.5

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$$A \alpha + B \gamma + C = 0 \quad (A(0) + B(0) + C)$$

$$\frac{-A}{B} = \frac{-1}{1} \quad A = B \Rightarrow A^T = B^T$$

$$OA^T = \frac{C}{1}$$

$$A^T = \frac{C}{1}$$

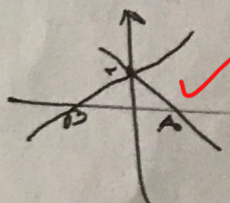
$$A = \frac{C}{1} B \cdot \frac{C}{1}$$

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$$A \alpha + B(0) + C = 0 \Rightarrow \frac{C}{1} \alpha = -C \quad \alpha = -1$$

$$A(0) + B \gamma + C = 0 \Rightarrow \frac{C}{1} \gamma = -C \quad \gamma = -1$$

$$\sqrt{(0+1)^2 + (0+1)^2} = \sqrt{2}$$



$$y = 1 - m \quad y = \frac{1}{m}$$

$$\frac{1}{1-m} = \frac{1}{m} \quad (1-m) = m \quad m^2 - 4m + 4 = 0 \Rightarrow m = 2$$

$$(1-m)(1-m) = 1 \Rightarrow 1 - 2m + m^2 = 1 \Rightarrow m^2 - 2m = 0 \Rightarrow m(m-2) = 0 \Rightarrow m = 0 \text{ or } m = 2$$

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$$0 < (1-m) < 1$$

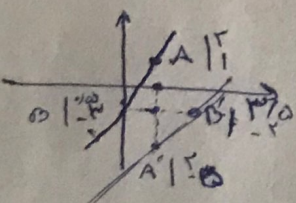
$$m = \frac{1}{1-m}$$

$$0 < \frac{1}{m} < 1$$

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

$$\frac{1}{m-1} + \frac{m}{1} = \frac{1}{1} \Rightarrow \frac{1+m(m-1)}{m-1} = 1 \Rightarrow \frac{m^2-m+1}{m-1} = 1 \Rightarrow m^2-m+1 = m-1 \Rightarrow m^2-2m+2 = 0 \Rightarrow m = 1 \pm \sqrt{1-2} = 1 \pm i$$

$$m = \frac{1 \pm \sqrt{1-2}}{1}$$



$$A^T B^T \rightarrow \frac{-1-(-1)}{1/1-1} = \frac{0}{0} = \text{undefined}$$

$$x+y=1$$

$$x-y=1$$

$$x+y=1$$

1.5

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$$\frac{1-b}{1-a} = 1$$

$$a-1 = 1-b \quad a+b = 2$$

$$\frac{a+b}{1} = 2 \Rightarrow \frac{1+b}{1} = 2 \Rightarrow b = 1$$

$$a+b = 2 \quad a-b = 0 \Rightarrow a = b = 1$$

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$$a+b=2 \quad a-b=0 \Rightarrow a=b=1$$

$$1-b = a$$

$$1+1 = 2 \quad 1.5$$

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