

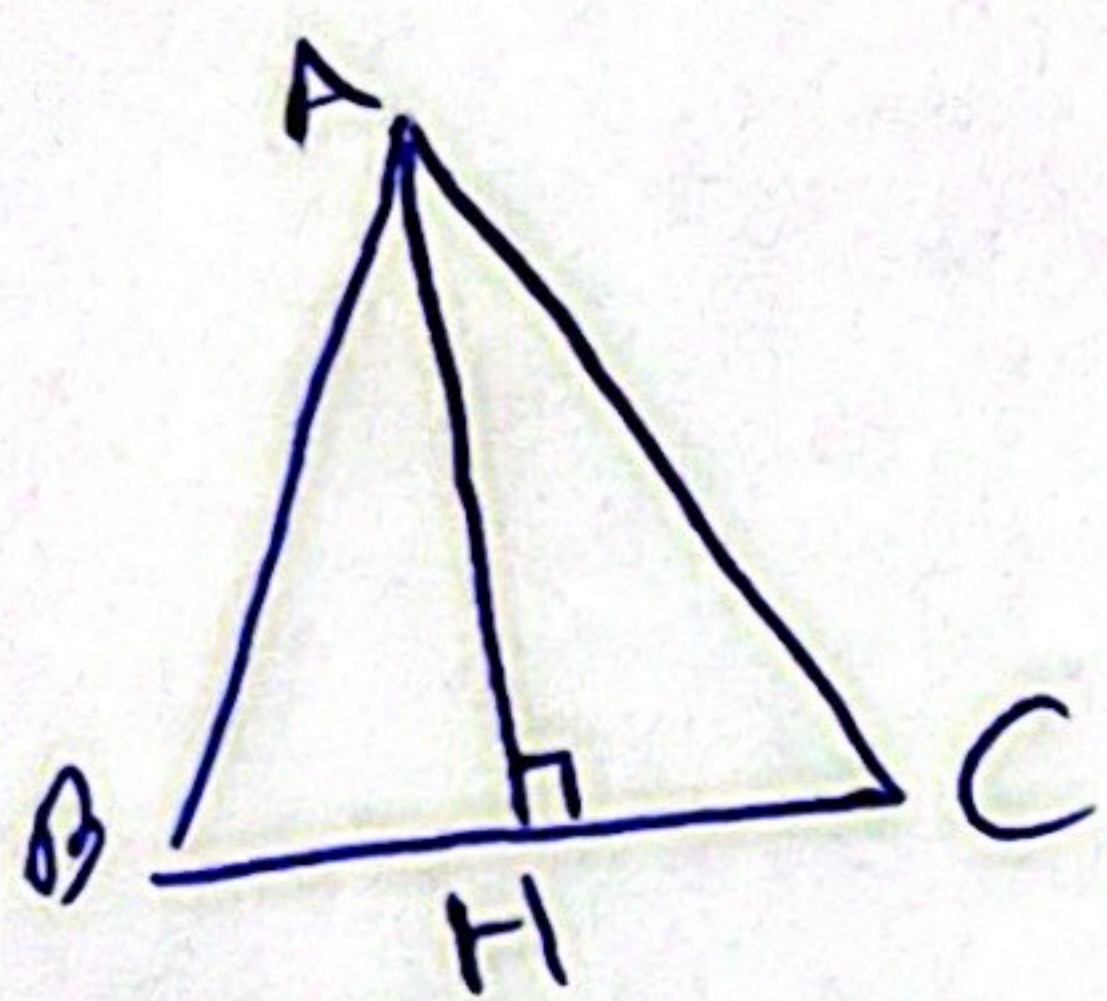
۲۰ عالی نوشته!

$A(4, -4)$ $B(2, 8)$
 $\rightarrow a = \frac{14}{-2} = -7$
 معادله: $ax + b = 2$
 $a' \cdot a = -1 \rightarrow a' = \frac{1}{7}$

$\frac{1}{7}x + b = 2$
 $\frac{x=3}{y=1} \rightarrow \frac{3}{7} + b = 2 \rightarrow b = \frac{11}{7}$

$\rightarrow \frac{1}{7}x + \frac{11}{7} = 2$
 $x + 11 = 14$ ✓

$A(3, 1)$, $B(-5, 7)$, $C(-1, 3)$



$|BC| = \sqrt{9 + 16} = 5$ ✓

$|AH| = \frac{|AB \cdot AC|}{|BC|} = \frac{11}{5} = 2.2$ ✓

$BC: -\frac{4}{5}x + \frac{3}{5} = 2 \rightarrow -4x + 3 = 10$

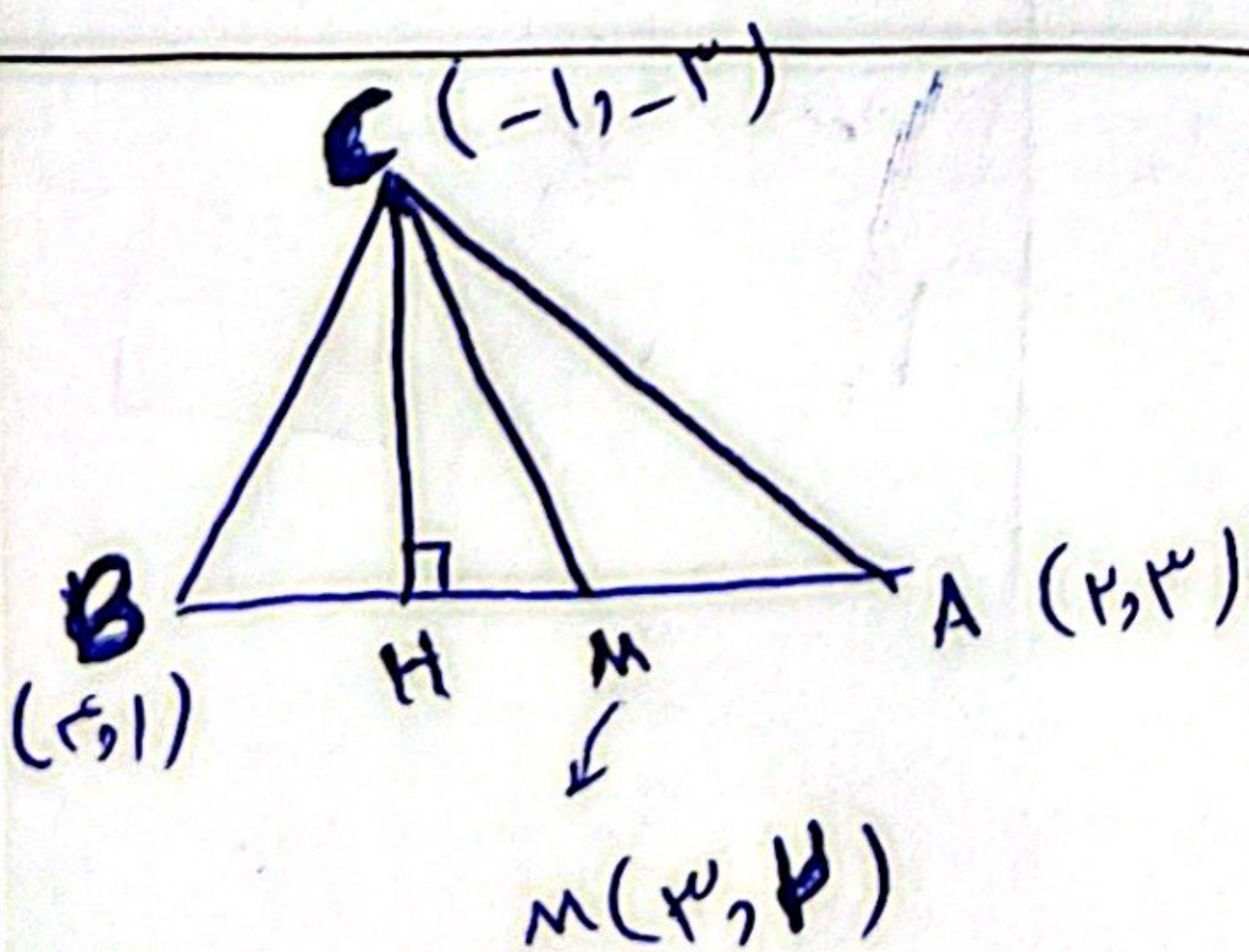
$2y = x + 7 \rightarrow m = \frac{1}{2}$

$2y = ax + 7 \rightarrow m' = \frac{1}{2} \rightarrow \frac{a}{2} = \frac{1}{2} \rightarrow a = 1$

$2y = x + 7 \rightarrow y = \frac{x}{2} + \frac{7}{2}$
 $y = x + 7 \rightarrow y = x + 1$
 $y = x + 7 \rightarrow y = x + 7$

$d = \frac{4}{\sqrt{5+1}} = \frac{4}{\sqrt{6}}$

$s_0 = \pi r^2 = \frac{9}{5} \pi$ ✓



$|MC| = \sqrt{14 + 16} = \sqrt{30}$

$|CH| = \frac{|-1-2-5|}{\sqrt{2}} = \frac{9}{\sqrt{2}}$

$AB: -x + 2 = 2 \rightarrow x + 2 = 2$

$MHC = MH^2 + CH^2 = MC^2$

$MH^2 + \frac{81}{2} = 30 \rightarrow MH^2 = \frac{19}{2}$

$MH = \frac{\sqrt{38}}{2}$ ✓

$(3m-2)x + (5-m)y - 7 = 0$
 $a = \frac{3m-2}{m-5}$

$(m+1)x - (3m-4)y + 1 = 0$
 $a' = \frac{m+1}{3m-4}$

$a \cdot a' = -1$

$\frac{3m-2}{m-5} \cdot \frac{m+1}{3m-4} = -1$

$\frac{3m^2 + 3m - 2m - 2}{3m^2 - 15m - 12m + 20} = -1$

$3m^2 + m - 2 = -3m^2 + 27m - 20$

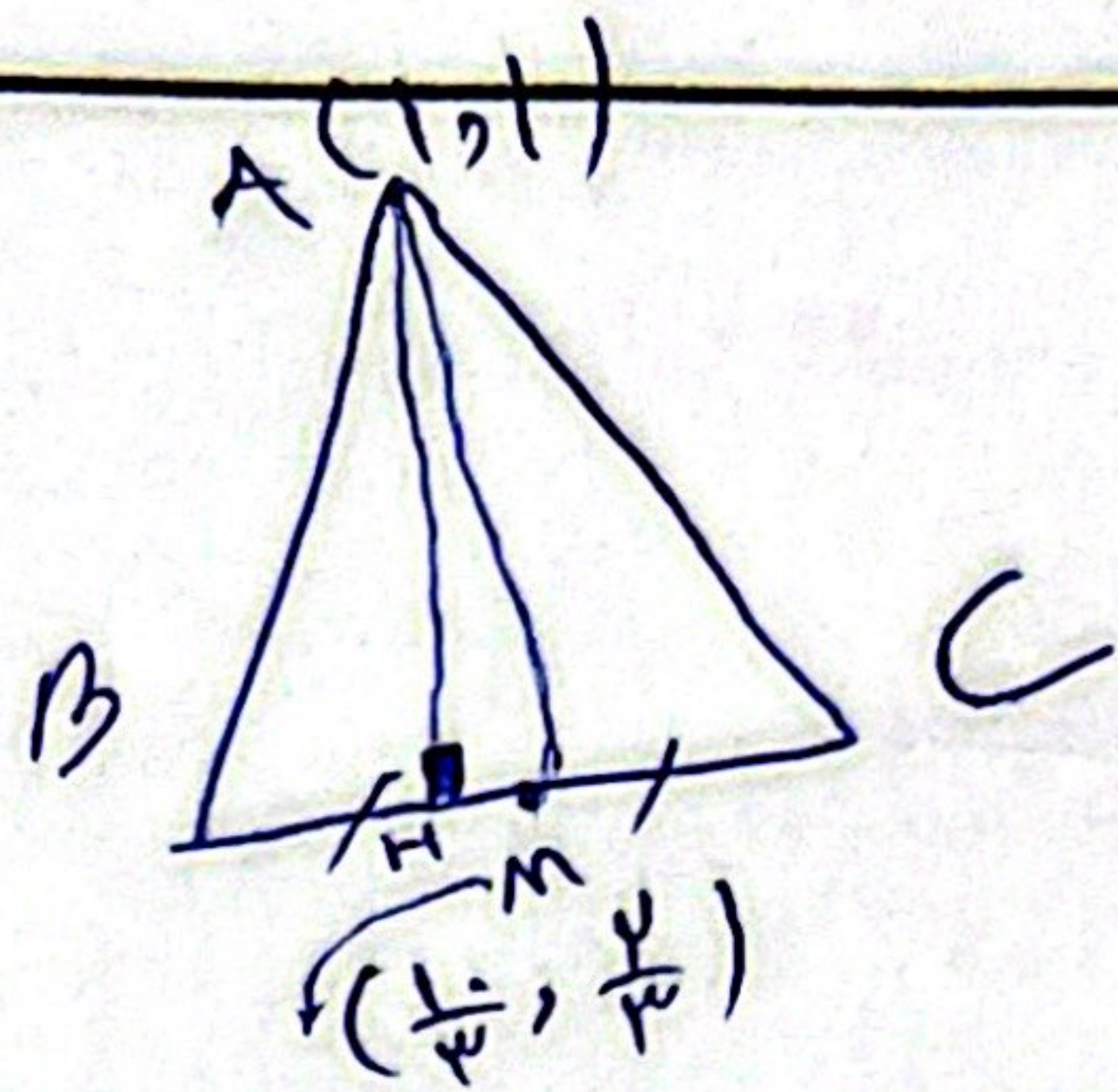
$6m^2 - 26m + 18 = 0$

م و وجود ندارد

$$AM: x + y = p$$

$$AC: y = x - 1$$

$$BC: x + y = p$$



$$|AM| = \sqrt{\left(\frac{p}{2}\right)^2 + \left(\frac{p}{2}\right)^2} = \frac{\sqrt{2}}{2} p = \frac{\sqrt{2}}{2} \cdot \frac{p}{\sqrt{2}} = \frac{p}{2}$$

$$|AH| = \frac{1}{2} p = \frac{p}{2}$$

$$BC: \frac{1}{x} = -x + p \Rightarrow x + y = p$$

$$C: AC \perp BC \Rightarrow x - 1 = p \Rightarrow x = p + 1$$

$$y = x - 1 = p$$

$$C(p+1, p)$$

2

$$A: \frac{AC}{AB} = \frac{x+1}{x} = \frac{p}{p-1} \Rightarrow x+1 = p \Rightarrow x = p-1 \Rightarrow y = 1 \Rightarrow A(1,1)$$

$$B: \frac{AB}{BC} = \frac{p}{p-1} = \frac{p}{p-1} \Rightarrow p = p-1 \Rightarrow p = 0 \Rightarrow B(0,0)$$

$$m = -\frac{1}{p} \rightarrow -\frac{1}{p}x + b = y \rightarrow -\frac{1}{p}x - y + b = 0$$

$$\frac{|b|}{\sqrt{\frac{1}{p^2} + 1}} = \frac{|b|}{\frac{\sqrt{p^2+1}}{p}} = \sqrt{p} \Rightarrow |b| = \omega$$

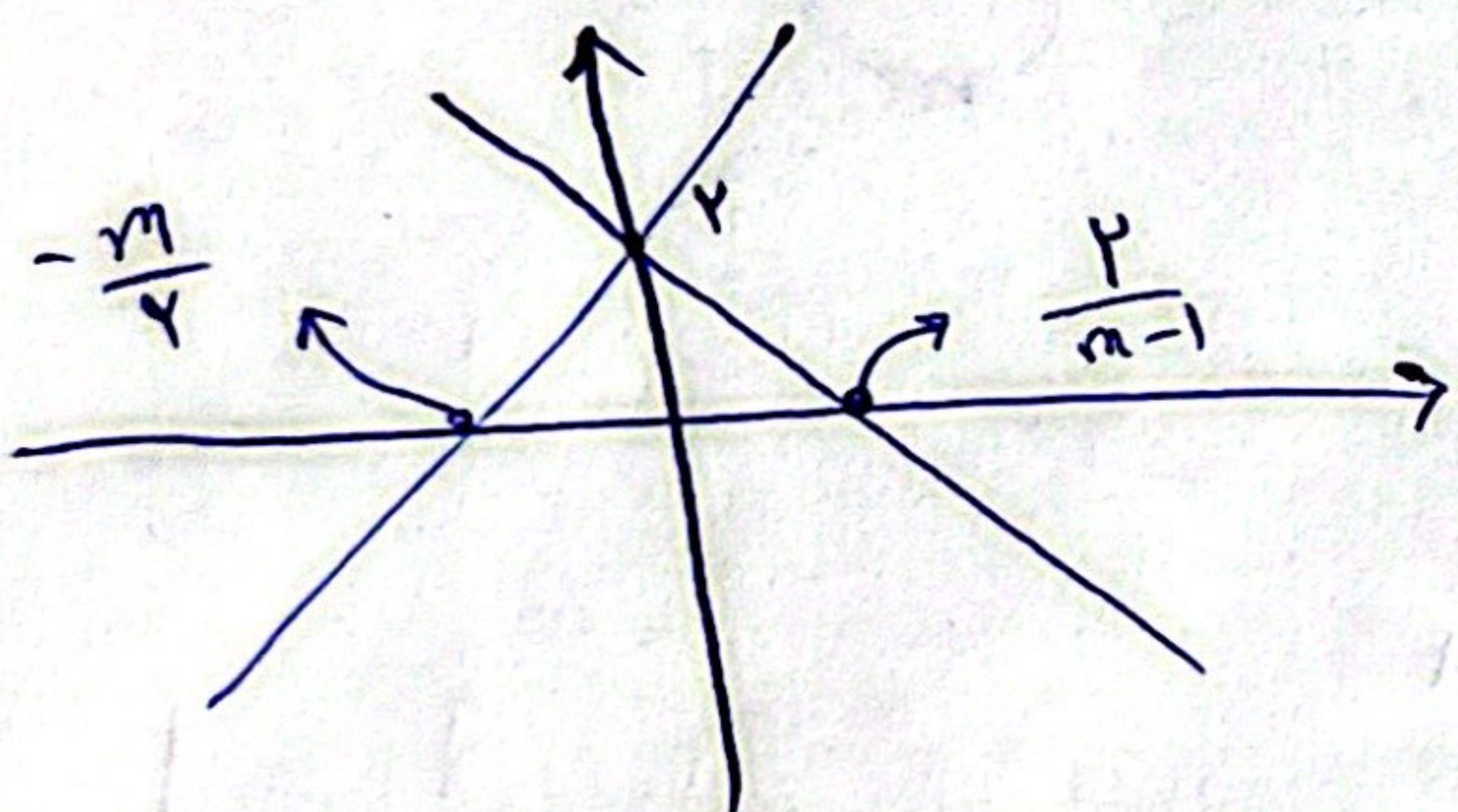
$$b = \omega \rightarrow -\frac{1}{p}x + \omega = y \xrightarrow{y=0} x = p \Rightarrow A(p,0) \xrightarrow{x=0} y = \omega \Rightarrow B(0,\omega) \rightarrow |AB| = \omega\sqrt{p^2+1}$$

$$b = -\omega \rightarrow -\frac{1}{p}x - \omega = y \xrightarrow{y=0} x = -p \Rightarrow A(-p,0) \xrightarrow{x=0} y = -\omega \Rightarrow B(0,-\omega) \rightarrow |AB| = \omega\sqrt{p^2+1}$$

2

$$y = 0 \Rightarrow y + mx = x + p \Rightarrow y = (1-m)x + p$$

$$my - px = pm \Rightarrow my = px + pm \Rightarrow y = \frac{p}{m}x + p$$



$$S_{\Delta} = \frac{p \times a}{2} = \frac{\omega}{2}$$

$$a = \frac{\omega}{p}$$

$$\left| \frac{p}{m-1} - \left(-\frac{m}{p}\right) \right| = \frac{\omega}{p}$$

$$\frac{p}{m-1} + \frac{m}{p} = \frac{\omega}{p} \Rightarrow \frac{p^2 + m^2 - \omega}{p(m-1)} = \frac{\omega}{p}$$

$$p^2 + m^2 - \omega = \omega(m-1) \Rightarrow p^2 + m^2 - \omega m = -\omega \Rightarrow p^2 + m^2 - \omega m + \omega = 0$$

2

$$x' = p - x \Rightarrow x = p - x'$$

$$y' = -p - y \Rightarrow y = -p - y'$$

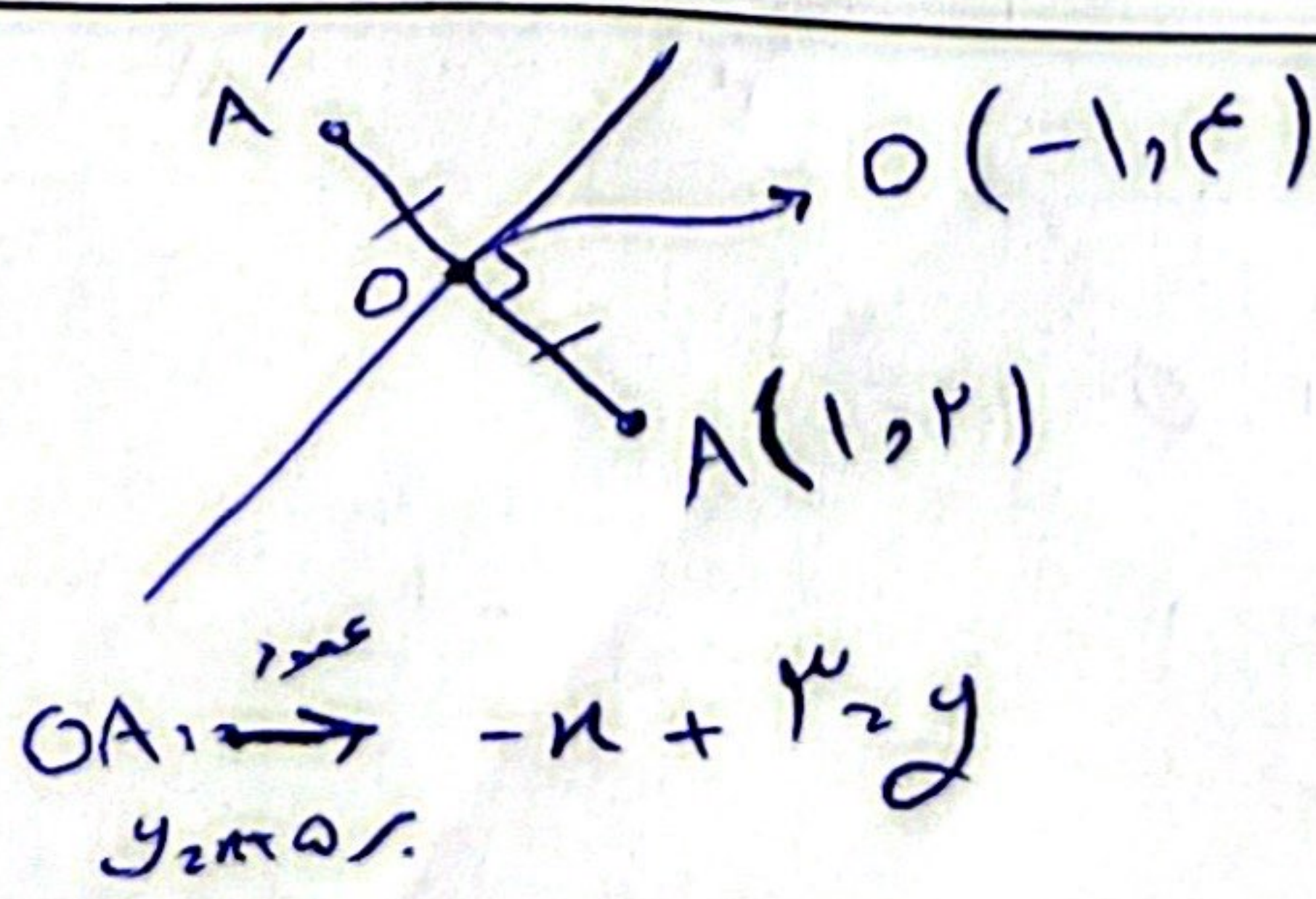
$$x = p - x' \Rightarrow y = -p - y' \Rightarrow -p - y' = p - x' \Rightarrow x' - y' = 2p$$

$$y' = x' - 2p$$

$$p_m = \frac{p}{m} \Rightarrow \frac{p}{m} = \frac{p}{m} \Rightarrow p = p$$

2

$$A(1,2) \xrightarrow{\text{تقریباً}} y = x + \omega$$



$$A'(-2,1) \Rightarrow A'(-2,1)$$

$$yb - ax = 1 \times 2 - 1 \times \omega = 2 - \omega$$

2

$$y = x + 2 \Rightarrow y = x + 2 \Rightarrow x = y - 2 \Rightarrow x = -1 \Rightarrow y = 1 \Rightarrow O(-1,1)$$

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