

$$E - (-2) = 4 \quad \sqrt{(E - (-2))^2 + 3^2} = d$$

$$4 \times \frac{1}{2} = 3 \quad d^2 = 4 \Delta \checkmark$$

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$$\sqrt{(3 - (-1))^2 + (4 - 1)^2} = \Delta$$

$$\sqrt{(3 - 1)^2 + (1 - (-1))^2} = 2, 0$$

$$2(0 + 1, 0) = 1 \Delta \checkmark$$

$$x - (-1 - x) = 3 - (-1) \quad y = -1$$

$$x = 1, 0 \rightarrow y = \frac{4}{3}x - 3$$

$$AB \rightarrow y = -\frac{3}{4}x + \frac{13}{4}$$

$$y = \frac{4}{3}x + b \rightarrow 1 = \frac{4}{3}(1) + b$$

$$b = -3$$

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$$\tan \theta = \frac{-2m}{m^2 - 1} = \sqrt{3}$$

$$1 - \sqrt{3} - \frac{\sqrt{3}}{2} = \frac{4\sqrt{3}}{2} \checkmark$$

$$\sqrt{3}m^2 + 2m - \sqrt{3} = 0 \quad m = \frac{-2 \pm \sqrt{4 + 12}}{2\sqrt{3}}$$

$$m = \sqrt{3} \quad m = \frac{\sqrt{3}}{2}$$

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$$BC \Rightarrow 2x - 3 = y$$

$$2x - y - 3 = 0$$

$$\frac{|1 - 9 - 3|}{\sqrt{4 + 1}} = \frac{10}{\sqrt{5}} = 2\sqrt{5} \checkmark$$

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$$BC \Rightarrow 4y = 14x - 31 \quad AC \Rightarrow 4y = 3x + 14 \quad AB \Rightarrow 4y = -11x + 21$$

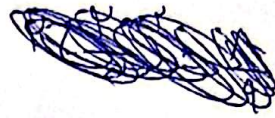
$$AC \rightarrow 4y - 3x - 14 = 0$$

$$\frac{|-9 + 4 - 14|}{\Delta} = \frac{19}{\Delta} \checkmark$$

$$\left\{ \begin{array}{l} \leftarrow A \rightarrow 3x + 14 = -11x + 21 \quad x = 1 \quad y = 0 \\ \leftarrow B \rightarrow 14x - 21 = -11x + 21 \quad x = 3 \quad y = 1 \\ \leftarrow C \rightarrow 3x + 14 = 14x - 21 \quad x = 5 \quad y = 1 \end{array} \right.$$

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$$\frac{-4}{\frac{3}{4}} = -\frac{16}{3}$$



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$$y = -\frac{16}{3}x - 4$$

$$x = -\frac{16}{3}x - 4 \quad x = -\frac{4}{17}, y = -\frac{4}{17} \quad \sqrt{\left(-\frac{4}{17}\right)^2 + \left(-\frac{4}{17}\right)^2} = \frac{4\sqrt{2}}{17} \checkmark$$

$$\frac{1}{a} = \frac{a}{1} \Rightarrow a = -1, 1$$

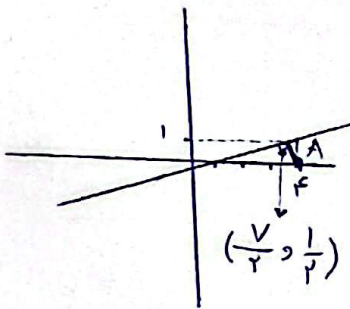
تغییر چون نقطه صدق نمی کند

فاصله نقطه عرض = $\frac{1}{\sqrt{2}}$

$$0^2 = \left(\frac{1}{\sqrt{2}}\right)^2 + L^2 \Rightarrow L = \sqrt{245}$$

$$\frac{1}{\sqrt{2}} \times \sqrt{245} = \frac{\sqrt{49}}{2} = \frac{7}{2}$$

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$$x - y = 0$$

$$x = 1 \Rightarrow y = 0$$

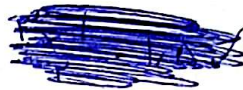
$$x = 0 \Rightarrow y = 1$$

فاصله نقطه از خط = ضلع قائم $\rightarrow \frac{1}{\sqrt{2+1}} = \frac{1}{\sqrt{3}}$

$$3 = \sqrt{2}$$

$$3^2 = \left(\frac{3}{\sqrt{2}}\right)^2 + L^2 \Rightarrow L = \frac{11}{1} \Rightarrow \frac{9}{\sqrt{2}} = L$$

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$$5 = \frac{1}{2} \times \frac{9}{\sqrt{2}} \times \frac{2}{\sqrt{2}} = 1, 2, 5$$

$$\frac{1}{2} - \frac{1}{3} = \frac{1}{6}$$

$$a-b = \frac{1}{6} \times \sqrt{2} = \frac{\sqrt{2}}{6}$$

$$\sqrt{(a-b)^2 + \left(\frac{1}{2} - \frac{1}{3}\right)^2} = \sqrt{\frac{2}{36} + \frac{1}{36}} = \frac{1}{6}$$

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$$\frac{1}{6} \times \sqrt{2} = \frac{\sqrt{2}}{6}$$

$$y = \frac{4}{3}x$$

خط در نقطه $(-4, 2)$ می باشد

$$\star d' \rightarrow y = \frac{14}{3}x - \frac{10}{3}$$

$$\frac{14}{3}x - \frac{10}{3} = -\frac{2}{3}x - 20$$

$$\frac{16}{3}x = -\frac{50}{3}, x = -\frac{15}{8} \Rightarrow y = -\frac{1}{2}$$

$$d \rightarrow y = -\frac{2}{3}x + b$$

$$-4 = -\frac{2}{3}(-15) + b$$

$$b = -\frac{20}{3}$$

$$d \perp d'$$

$$d' \rightarrow -\frac{2}{3}x + y + b, \frac{b}{\sqrt{2+1}} = \Delta$$

$$b = 20$$

$$\boxed{d \rightarrow y = \frac{4}{3}x - 20}$$

$$d \rightarrow y = -\frac{2}{3}x - 20$$

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$$(-1) \times (-7) = 7$$