

نام و نام خانوادگی: پ. ر. س. ا. ح. م. ی. ر. ک. پاسخنامه تشریحی تکلیف شماره (۱۰۱) کلاس: یازدهم

الف) $m = \frac{-4}{1} = -4 \rightarrow y - 2 = -4(x - 4) \rightarrow y = -4x + 18$ ✓

ب) $m = \frac{-6}{3} = -2 \rightarrow y - 2 = -2(x - 4) \rightarrow y = -2x + 10$ ✓

ج) $m = \frac{-1}{3} \rightarrow m' = 3 \rightarrow y - 2 = 3(x - 4) \rightarrow y = 3x - 10$ ✓

د) $m = \tan \frac{\pi}{3} = \sqrt{3} \rightarrow y - 2 = \sqrt{3}(x - 4) \rightarrow y = \sqrt{3}x - 4\sqrt{3} + 2$ ✓

الف) $\sqrt{\Delta x^2 + \Delta y^2} = \sqrt{3^2 + 4^2} = 5$ ✓

ب) $\frac{|3x + 4y - 3|}{\sqrt{4 + 14}} \xrightarrow{\substack{x=2 \\ y=3}} \frac{|6 + 12 - 3|}{5} = \frac{15}{5} = 3$ ✓

$\frac{4}{3} = \frac{4}{3} \neq \frac{1}{3} \rightarrow$ دو خط موازی و غیر منطبق می‌باشند $2x + 9y = 1 \xrightarrow{\div 3} 2x + 3y = \frac{1}{3}$

الف) $ax + by = \frac{c+c'}{2} \Rightarrow 2x + 3y = \frac{4+4}{2} \Rightarrow 2x + 3y = 4 \rightarrow y = \frac{-2x + 4}{3}$ ✓

ب) $\frac{|c - c'|}{\sqrt{a^2 + b^2}} \rightarrow \frac{|4 - 4|}{\sqrt{2^2 + 3^2}} = \frac{0}{\sqrt{13}} = \frac{0}{13}$ ✓

$\frac{|2x - 2y - 1|}{\sqrt{4 + 4}} = \frac{|2x + 3y - 3|}{\sqrt{4 + 9}} \rightarrow 2x - 2y - 1 = \pm (2x + 3y - 3)$

$\begin{cases} 2x - 2y - 1 = 2x + 3y - 3 \rightarrow 5y = 2 \rightarrow y = \frac{2}{5} \\ 2x - 2y - 1 = -(2x + 3y - 3) \rightarrow 4x + y = 4 \rightarrow y = -4x + 4 \end{cases}$ ✓

پس از آنکه $m = 2$, $m' = -3$

$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right| \rightarrow \tan \alpha = \left| \frac{5}{-5} \right| = 1 \Rightarrow \alpha = \frac{\pi}{4} = 45^\circ$ ✓

زاویه منفرجه $= 180 - 45 = 135^\circ$ ✓

$$\text{الف) } \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{9 + 16} = 5 \quad \checkmark$$

$$\text{ب) } \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) \Rightarrow \left(\frac{-2}{2}, \frac{-2}{2} \right) = (-1, -1) \quad \checkmark$$

$$\text{الف) } \left(\frac{-10 - 2 + 3}{3}, \frac{-13 + 3 + 1}{3} \right) = (-3, -3) \quad \checkmark$$

$$\text{ب) } \frac{1}{3} \begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} = \frac{-94}{3} = -31.33 \quad \checkmark$$

$$\text{الف) } -y = \frac{2x+1}{2x-3} \rightarrow y = \frac{2x+1}{3-2x} \quad \checkmark$$

$$\text{ب) } y = \frac{-2x+1}{-2x-3} \rightarrow y = \frac{2x-1}{2x+3} \quad \checkmark$$

$$\text{ج) } x = \frac{2y+1}{2y-3} \rightarrow y = \frac{2x+1}{2x-3} \quad \checkmark$$

$$\text{د) } -x = \frac{-2y+1}{-2y-3} \rightarrow y = \frac{1-2x}{2x+3} \quad \checkmark$$

$$\text{الف) } x' = x - 2 \rightarrow x = x' + 2 \Rightarrow y' - 3 = \frac{2x' + 4}{x' - 1} \rightarrow y' = \frac{2x' + 4}{x' - 1} + 3$$

$$y' = y + 3 \rightarrow y = y' - 3$$

$$\text{ب) } x' = x - 3 \rightarrow x = x' + 3, y' = y - 2 \rightarrow y = y' + 2 \rightarrow y' = \frac{2x' + 2}{x' - 1} \quad \checkmark$$

$$y' + 2 = \frac{2x' + 3}{x'} \rightarrow y' = \frac{2x' + 3}{x'} - 2 \rightarrow y' = \frac{2x' + 3 - 2x'}{x'} \rightarrow y' = \frac{3}{x'} \quad \checkmark$$

$$\text{الف) } \begin{cases} 2x + y = 2 \\ x - 2y = 1 \end{cases} \xrightarrow{\times(-2)} \begin{cases} 2x + y = 2 \\ -2x + 4y = -2 \end{cases} \rightarrow 5y = 0 \rightarrow y = 0 \quad \checkmark$$

$$x = \frac{14}{19} \quad \checkmark$$

$$\text{ب) } x = -\frac{\begin{vmatrix} 2 & 2 \\ -2 & 1 \end{vmatrix}}{\begin{vmatrix} 2 & 1 \\ 1 & -2 \end{vmatrix}} = -\frac{14}{-19} = \frac{14}{19} \quad \checkmark$$

$$y = \frac{\begin{vmatrix} 2 & 2 \\ 1 & 1 \end{vmatrix}}{\begin{vmatrix} 2 & 1 \\ 1 & -2 \end{vmatrix}} = \frac{0}{-19} = 0 \quad \checkmark$$