

نام و نام خانوادگی: پسر/دختر	پاسخنامه تشریحی تکلیف شماره ۱۸۸ ... کلاس: یازدهم	۲
الف) $m = \frac{\Delta y}{\Delta x} = \frac{3 - (-2)}{4 - 5} = \frac{5}{-1} = -5$ $y = -5x + b \Rightarrow 2 = -12 + b \Rightarrow b = 14$ $y = -5x + 14$ ✓		۲
ب) $2y + 3x = b \Rightarrow 4 + 12 = b = 16 \Rightarrow 2y + 3x = 16$ ✓ ج) $x + 3y = 1 \Rightarrow -3x + y = b \Rightarrow -12 + 2 = b = -10$ $\Rightarrow -3x + y = -10$ ✓ د) $m = \tan \frac{\pi}{6} = \frac{1}{\sqrt{3}}$ $y = \frac{1}{\sqrt{3}}x + b \Rightarrow 2 = \frac{4}{\sqrt{3}} + b \Rightarrow b = 2 - \frac{4}{\sqrt{3}}$ $y = \frac{1}{\sqrt{3}}x + 2 - \frac{4}{\sqrt{3}}$ ✓	۱	
الف) $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{3^2 + (-4)^2} = \sqrt{9 + 16} = \sqrt{25} = 5$ ✓		۲
ب) $3x + 4y - 3 = 0$ $\frac{ 3 \cdot 1 + 4 \cdot 2 - 3 }{\sqrt{3^2 + 4^2}} = \frac{10}{5} = 2$ ✓		۲
الف) $2x + 3y = 4$ $2x + 3y = 6$ حالا خط را در ۲ ضرب $2x + 3y = \frac{4+6}{2} \Rightarrow 2x + 3y = 5$ ✓		۲
ب) $2x + 3y = 4$ $2x + 3y = 6$ $\frac{ 4-6 }{\sqrt{2^2+3^2}} = \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$ ✓		۳
$\frac{ 3x - 2y - 1 }{\sqrt{3^2 + 2^2}} = \frac{ 2x + 3y - 3 }{\sqrt{2^2 + 3^2}} \Rightarrow 3x - 2y - 1 = 2x + 3y - 3 $ $\Rightarrow 3x - 2y - 1 = 2x + 3y - 3 \Rightarrow 5y - x = 2$ ✓ $y = \frac{1}{5}x + \frac{2}{5}$ $\Rightarrow 3x - 2y - 1 = -2x - 3y + 3 \Rightarrow 5x + y = 4$ ✓ $y = -5x + 4$		۲
$y = 2x + 5$ $y = -3x + 3$ $\tan \alpha = \left \frac{2 - (-3)}{1 - 6} \right = \left \frac{5}{-5} \right = 1 \Rightarrow \alpha = 45^\circ$ ✓		۲
	۵	

الف) $AB = \sqrt{(\Delta x)^2 + (\Delta y)^2} = \sqrt{1^2 + 4^2} = \sqrt{17} \approx 4.123$ ✓

(2)

6

ب) $M \begin{vmatrix} \frac{x_A + x_B}{2} = \frac{3+5}{2} = 4 \\ \frac{y_A + y_B}{2} = \frac{2+4}{2} = 3 \end{vmatrix} \Rightarrow M \begin{vmatrix} 4 \\ 3 \end{vmatrix}$ ✓

الف) $M \begin{vmatrix} \frac{x_1 + x_2 + x_3}{3} = \frac{-10 + 2 + 3}{3} = -\frac{5}{3} \\ \frac{y_1 + y_2 + y_3}{3} = \frac{-13 + 3 + 1}{3} = -\frac{9}{3} = -3 \end{vmatrix} \Rightarrow M \begin{vmatrix} -\frac{5}{3} \\ -3 \end{vmatrix}$ ✓

(2)

7

ب) $\begin{vmatrix} 3 & 1 & 1 \\ -2 & 3 & 1 \\ -10 & -13 & 1 \end{vmatrix} = \frac{1}{3} (9 - 10 + 22 + 30 + 2 + 39) = \frac{1}{3} 72 = 24$ ✓

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

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

(2)

8

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

$\Rightarrow y = \frac{-3x+1}{2x+2}$ ✓

ج) $x \rightarrow y$ $x = \frac{2y+1}{2y-3} \Rightarrow y = \frac{2x+1}{2x-2}$ ✓

الف) $x' = x-2 \Rightarrow x = x'+2$
 $y' = y+2 \Rightarrow y = y'-2$

$y'-2 = \frac{2x'+1}{x'+2-2} = \frac{2x'+1}{x'} \Rightarrow y' = \frac{2x'+1}{x'} + 2 = \frac{2x'+1+2x'}{x'} = \frac{4x'+1}{x'}$ ✓

(2)

9

ب) $x' = x-3 \Rightarrow x = x'+3$
 $y' = y-2 \Rightarrow y = y'+2$

$y'+2 = \frac{2x'+1}{x'+3-3} = \frac{2x'+1}{x'} \Rightarrow y' = \frac{2x'+1}{x'} - 2 = \frac{2x'+1-2x'}{x'} = \frac{1}{x'}$ ✓

الف) $\begin{cases} 3x+2y=2 \\ x-5y=1 \end{cases} \xrightarrow{\times 2} \begin{cases} 3x+2y=2 \\ 2x-10y=2 \end{cases} \Rightarrow 19y = -1 \Rightarrow y = \left(\frac{-1}{19}\right) \Rightarrow x = \left(\frac{12}{19}\right)$ ✓

(2)

ب) $\begin{cases} 3x+2y=2 \\ x-5y=1 \end{cases} \Rightarrow x = \frac{2-(-1)}{-10-6} = \frac{1}{-16} = -\frac{1}{16}$ ✓ $y = \frac{3-2}{-10-6} = \frac{1}{-16} = -\frac{1}{16}$ ✓

10