

18, 20

«بیاضی»

پاسخنامه تشریحی تکلیف شماره ۱۵۰۰ ... طرح درس یا الزام (متر B)

$m = \frac{\Delta y}{\Delta x} = \frac{f}{-1} = -f$ $y - 2 = -f(x - f) = -fx + f^2$ $y - 2 = -fx + f^2 \Rightarrow y = -fx + f^2 + 2$	الف)	۱
$m = -\frac{9}{f} = -3$ $y - 2 = -3(x - f) = -3x + 3f$ $y - 2 = -3x + 3f \Rightarrow y = -3x + 3f + 2$	ب)	۲
$m = -\frac{1}{f} \Rightarrow m' = +3$ $y - 2 = 3(x - f) = 3x - 3f$ $y - 2 = 3x - 3f \Rightarrow y = 3x - 3f + 2$	ج)	۳
$\tan \frac{\pi}{3} = \tan 60^\circ = \sqrt{3} = m$ $y - 2 = \sqrt{3}(x - f) = \sqrt{3}x - \sqrt{3}f$ $y - 2 = \sqrt{3}x - \sqrt{3}f \Rightarrow y = \sqrt{3}x - \sqrt{3}f + 2$	د)	۴
$\sqrt{(4x)^2 + (4y)^2} = \sqrt{16x^2 + 16y^2} = \sqrt{16(x^2 + y^2)} = 4\sqrt{x^2 + y^2} = 4$ $d = \frac{ 4x + 4y - 4 }{\sqrt{4^2 + 4^2}} = \frac{ 4x + 4y - 4 }{\sqrt{32}} = \frac{ x + y - 1 }{\sqrt{2}}$	الف)	۵
$\begin{cases} fx + 4y = 1 \\ 2x + 3y = 9 \end{cases} \Rightarrow \begin{cases} fx + 4y = 1 \\ fx + 4y = 12 \end{cases}$ $ax + by = \frac{C' + C}{f} \Rightarrow fx + 4y = 10$ $\Rightarrow fx + 4y - 10 = 0$ $fx + 4y - 1 = 0$ $2x + 3y - 9 = 0 \Rightarrow fx + 4y - 12 = 0$ $d = \frac{ C - C' }{\sqrt{a^2 + b^2}} = \frac{ 12 - 1 }{\sqrt{4^2 + 2^2}} = \frac{11}{\sqrt{20}} = \frac{11}{2\sqrt{5}}$	ب)	۶
$\frac{ 3x - 2y - 1 }{\sqrt{9 + 4}} = \frac{ 2x + 3y - 3 }{\sqrt{4 + 9}} \Rightarrow 3x - 2y - 1 = 2x + 3y - 3 $ $\begin{cases} 3x - 2y - 1 = 2x + 3y - 3 \Rightarrow x - 5y = -2 \Rightarrow m = \frac{1}{5} \\ 3x - 2y - 1 = -(2x + 3y - 3) \Rightarrow 5x + y = 4 \Rightarrow m = -5 \end{cases}$	ج)	۷
$\tan \alpha = \left \frac{m - m'}{1 + mm'} \right = \left \frac{\frac{1}{5} - (-5)}{1 + \frac{1}{5} \cdot (-5)} \right = \left \frac{\frac{1}{5} + 5}{1 - 1} \right = \left \frac{\frac{26}{5}}{0} \right \Rightarrow \tan \alpha = \infty$ $\alpha = 90^\circ \Rightarrow \frac{\pi}{2}$ $y + 3x = 3 \Rightarrow m = -\frac{1}{3}$ $y - 2x - 5 = 0 \Rightarrow m = \frac{1}{2}$	د)	۸

$\sqrt{34+4x} = 10$ $M \left \begin{array}{c} x_A + x_B \\ 2 \\ y_A + y_B \\ 2 \end{array} \right. = 2 M \left \begin{array}{c} -1 \\ +1 \end{array} \right.$	الف) ب)
$G \left \begin{array}{c} x = \frac{-10-2+3}{3} \\ y = \frac{-13+3+1}{3} \end{array} \right. = 2 \left \begin{array}{c} -3 \\ -3 \end{array} \right.$ $S = \frac{1}{P} \begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} = \frac{1}{P} (-30 - 29 - 2 - 9 - (-10) - 24) = \frac{1}{P} \times 98 = 98/P$	الف) ١٥
$y = \frac{2x+1}{x-3} \xrightarrow{\text{نسبة}} -y = \frac{2x+1}{x-3} \text{ (الف)}$ $-x = \frac{-2y+1}{-2y-3} \Rightarrow 2xy+3x = -2y+1$ $-2xy+2y = -3x+1 = 2y(2x+1) = -3x+1 = 2y = \frac{-3x+1}{2x+1}$ $x = \frac{2y+1}{2y-3} \Rightarrow 2xy-3y = 2y+1$ $-2xy-2y = 3x+1 = 2y(2x+1) = 3x+1 = 2y = \frac{3x+1}{2x+1}$	(د) نسبة ب) نسبة (د) و (هـ) = ٢ و (هـ) = ٢ (ج) نسبة ب) نسبة (ج) و (د) و (هـ) = ٢ و (هـ) = ٢
$\begin{cases} x' = x - \alpha \\ y' = y - \beta \end{cases} \Rightarrow \begin{cases} x' = x - 2 \\ y' = y + 3 \end{cases} \Rightarrow \begin{cases} x = x' + 2 \\ y = y' - 3 \end{cases}$ $y' - 3 = \frac{2(x' + 2) + 1}{(x' + 2) - 3} = 2y' = \frac{2x' + 5}{x' - 1} + 3$ $\Rightarrow 2y' = \frac{2x' + 5}{x' - 1}$ $\begin{cases} x' = x - \alpha \\ y' = y - \beta \end{cases} \Rightarrow \begin{cases} x' = x - 3 \\ y' = y - 2 \end{cases} \Rightarrow \begin{cases} x = x' + 3 \\ y = y' + 2 \end{cases}$ $y' + 2 = \frac{2(x' + 3) + 1}{(x' + 3) - 3} = \frac{2x' + 7}{x'}$ $\Rightarrow 2y' = \frac{2x' + 7}{x'} - 2 = \frac{7}{x'}$	الف) ب)
$\begin{cases} 3x + 4y = 2 \\ x - 5y = 1 \end{cases} \Rightarrow \begin{cases} 3x + 4y = 2 \\ -3x + 15y = -3 \end{cases} \text{ (الف)}$ $19y = -1 \Rightarrow y = -\frac{1}{19}, x = \frac{15}{19}$	ب) ٥