

نام و نام خانوادگی آفرین پاسخنمه تشریحی تکلیف شماره ۱۵ ... کلاس ... ۱۶ ...

$y = mx + h \rightarrow \frac{\Delta y}{\Delta x} = m \rightarrow \frac{2 - (-2)}{4 - 1} = -4$ (کوتاه از (۴،۲) $\rightarrow y = -4(x) + h \rightarrow h = 18$ (الف)
 $xy + yx = -1 \rightarrow m = \frac{-y}{x} = -3 \rightarrow y = -3x + h$ (کوتاه از (۴،۲) $\rightarrow y = -3(4) + h \rightarrow h = 14$ (ب)
 $x + 3y = 1 \rightarrow m = \frac{-1}{3} \rightarrow m = 3 \rightarrow y = 3x + h$ (کوتاه از (۴،۲) $\rightarrow y = 3(4) + h \rightarrow h = -10$ (ج)
 $\tan \frac{\pi}{3} = m = \sqrt{3} \rightarrow y = \sqrt{3}x + h$ (کوتاه از (۴،۲) $\rightarrow y = \sqrt{3}(4) + h \rightarrow h = -4\sqrt{3}$ (د)

فاصله $\left| \frac{2}{3} \right|$ ، $\left| \frac{-1}{3} \right| \rightarrow \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{9 + 14} = 5$ (الف)

فاصله $\left| \frac{2}{3} \right|$ ، $3x + 4y = 3$ $\frac{ax + by + c}{\sqrt{a^2 + b^2}} = \frac{4 \times 2 + 3 \times 3 - 3}{5} = \frac{14}{5} = 2.8$ (ب)

$3x + 4y = 1$ ، $3x + 4y = 11$ $m = \frac{-3}{4}$ ، $c = -10 \leftarrow \frac{c_1 + c_2}{2} = \frac{-1 - 11}{2} = -6$
 $3x + 4y = 1$ ، $3x + 4y = 11$ $\rightarrow 3x + 4y = 10$
 $\frac{c - c'}{\sqrt{a^2 + b^2}} = \frac{11 - 1}{\sqrt{14 + 14}} = \frac{10}{\sqrt{28}} = \frac{5\sqrt{14}}{7}$ (ج)

$\frac{ax_1 + by_1 + c_1}{\sqrt{a^2 + b^2}} = \frac{ax_2 + by_2 + c_2}{\sqrt{a^2 + b^2}}$ $\frac{|3x - 2y - 1|}{\sqrt{9 + 4}} = \frac{|3x + 2y - 3|}{\sqrt{9 + 4}}$
 $3x - 2y - 1 = 3x + 2y - 3 \rightarrow x - 2y = -2 \rightarrow x + 2y + 2 = 0$
 $3x - 2y - 1 = -3x - 2y + 3 \rightarrow 6x = 4 \rightarrow 3x = 2 \rightarrow x = \frac{2}{3}$

$m = \tan \alpha = \left| \frac{m - m'}{1 + mm'} \right| = \left| \frac{1}{-1} \right| = 1 \rightarrow \tan \alpha = 1$
 $y = 2x = 4$ ، $m = 2$
 $y + 3x = 4$ ، $m' = -\frac{1}{3}$
 $\alpha = 45^\circ$

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{4^2 + 3^2} = \boxed{5} \checkmark$$

$$\begin{cases} \frac{x_1 + x_2}{2} & \frac{y_1 + y_2}{2} = -1 \\ \frac{y_1 + y_2}{2} & \frac{x_1 - x_2}{2} = 1 \end{cases} \quad m = \begin{vmatrix} -1 \\ 1 \end{vmatrix} \quad \boxed{(-1, 1)} \checkmark$$

نقطة

$$\begin{cases} \frac{x_1 + x_2 + x_3}{3} & \frac{y_1 + y_2 + y_3}{3} = -3 \\ \frac{y_1 + y_2 + y_3}{3} & \frac{x_1 + x_2 - 13}{3} = -3 \end{cases} \quad m = \begin{vmatrix} -3 \\ -3 \end{vmatrix} \quad \boxed{(-3, -3)} \checkmark$$

$$S = \frac{1}{6} \begin{vmatrix} -10 & -13 & 1 \\ -3 & 3 & 1 \\ 3 & 1 & 1 \end{vmatrix} = \frac{1}{6} \times (1 - 11 + 40) = \boxed{5.5} \checkmark$$

الفا

$$y = \frac{2m+1}{5m-3} \xrightarrow{\text{قريب } y = -x} -y = \frac{2m+1}{5m-3} \Rightarrow y = \frac{-2m-1}{5m-3} \checkmark$$

الفا

$$\frac{y}{x} = -1 \xrightarrow{\text{قريب } x = y} y = \frac{-2m+1}{-5m-3} \checkmark$$

الفا

$$\frac{y}{x} = -1 \xrightarrow{\text{قريب } x = y} x = \frac{2y+1}{5y-3} \Rightarrow y = \frac{2m+1}{5m-3} \checkmark$$

الفا

$$\frac{y}{x} = -1 \xrightarrow{\text{قريب } x = y} -x = \frac{-2y+1}{-5y-3} \Rightarrow y = \frac{-2m+1}{5m+3} \checkmark$$

$$\begin{aligned} x' &= x - 2 \Rightarrow x = x' + 2 \\ y' &= y + 3 \Rightarrow y = y' - 3 \end{aligned} \quad y' - 3 = \frac{2(x' + 2) + 1}{x' + 2 - 3} \Rightarrow \boxed{y' = \frac{2x' + 5}{x' - 1}} \checkmark$$

$$\begin{aligned} x' &= x - 3 \Rightarrow x = x' + 3 \\ y' &= y - 2 \Rightarrow y = y' + 2 \end{aligned} \quad y' + 2 = \frac{2(x' + 3) + 1}{x' + 3 - 3} \Rightarrow \boxed{y' = \frac{5}{x'}} \checkmark$$

$$\begin{aligned} 2x + 5y &= 2 \\ 2x - 10y &= 2 \end{aligned} \quad x - 5y = 1 \xrightarrow{\times 2} 2x - 10y = 2$$

$$\begin{aligned} 19y &= -1 \Rightarrow y = \frac{-1}{19} \checkmark \\ 2x &= \frac{14}{19} \checkmark \end{aligned}$$

$$x = \frac{\begin{vmatrix} 2 & 2 \\ -2 & 1 \end{vmatrix}}{\begin{vmatrix} 2 & 5 \\ 2 & -10 \end{vmatrix}} = \frac{-10}{-19} = \frac{10}{19} \checkmark$$

$$y = \frac{\begin{vmatrix} 2 & 2 \\ 1 & 1 \end{vmatrix}}{\begin{vmatrix} 2 & 5 \\ 2 & -10 \end{vmatrix}} = -\frac{1}{19} \checkmark$$