

$$M(x, y)$$

Assuming 1st order approximation

$$(0, y) \rightarrow m s \frac{r}{-1} s - \varepsilon \rightarrow y + r s - \varepsilon (n - a) s \quad (1) - (2)$$

$$y s - \varepsilon n + 1 \Delta$$

$$r y + y n s - 1 \rightarrow r y s - y n - 1 \rightarrow y s - r n - 1/r \rightarrow m s - r \quad (3) - (5)$$

$$n y n s \rightarrow y + r s - r (n - \varepsilon) = y s - r n + 1 \Delta$$

$$2 + r y s - 1 \rightarrow r y s - n + 1 \rightarrow y s - \frac{n}{r} + \frac{1}{r} \rightarrow m s - \frac{1}{r} \quad (6) - (8)$$

$$m' s r \rightarrow y + r s - r (n - \varepsilon) s y s - r n - 1 \Delta$$

$$m s \tan \alpha s \tan \alpha / c \rightarrow m s r$$

$$y + r s \sqrt{c} (n - \varepsilon) \rightarrow y s n \sqrt{c} - \varepsilon \sqrt{c} + r$$

$$\text{Ans: } \sqrt{a^2 + b^2} s \sqrt{9 + 14 s \Delta} \quad (r, n) (11) - (12)$$

$$r n + \varepsilon y - r s \rightarrow \frac{|a x_1 + b y_1 + c|}{\sqrt{a^2 + b^2}} s \frac{|4 + 14 - 14|}{\sqrt{9 + 14}} s \frac{10}{5} s r \quad (13) - (16)$$

$$r x + r y s 4 \quad x r + y s 14 \quad (17) - (18)$$

$$r x + y s n \rightarrow r x + y s \frac{14 + n}{r} s 1.$$

$$\rightarrow r x + y s 1.$$

$$d s \frac{|c - c'|}{\sqrt{a^2 + b^2}} s \frac{|-14 + 14|}{\sqrt{14 + 14}} s \frac{r}{\sqrt{a^2}} s \frac{r}{r \sqrt{10}} = \frac{r \sqrt{10}}{14}$$



$$1 \quad \frac{|ax+by-c|}{\sqrt{a^2+b^2}} \leq \frac{|a'x+b'y-c'|}{\sqrt{a'^2+b'^2}}$$

$$3 \quad \frac{|x_1-y_1-1|}{\sqrt{9+4}} \leq \frac{|x_1+y_1-2|}{\sqrt{4+9}} \rightarrow |x_1-y_1-1| \leq |x_1+y_1-2|$$

$$5 \quad \rightarrow x_1-y_1-1 \leq x_1+y_1-2 \rightarrow x_1-ay \leq -1$$

$$6 \quad \rightarrow x_1-y_1-1 \leq -x_1-y_1+2 \rightarrow ax+ys \leq 3$$

$$8 \quad \tan \theta \leq \left| \frac{m-m'}{1+mm'} \right|$$

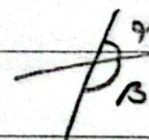
$$10 \quad y \leq x+2 \rightarrow m \leq 1 \quad \rightarrow \left| \frac{a}{-a} \right| \leq 1$$

$$11 \quad y \leq x+2 \rightarrow m \leq 1$$

$$\tan \theta \leq 1$$

$$\Rightarrow \theta \leq 45^\circ$$

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$$14 \quad d \leq \sqrt{\Delta x^2 + \Delta y^2}, d \leq \sqrt{4^2 + 3^2} = 5$$

$$16 \quad M\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right) \rightarrow M\left(\frac{-1}{2}, \frac{1}{2}\right) \rightarrow M(-1, 1)$$

$$18 \quad G \leq \frac{x_1+x_2+x_3}{3} \leq \frac{1+1-1}{3} \leq \frac{-1}{3} \leq -1$$

$$\rightarrow G(-1, -1)$$

$$20 \quad G \leq \frac{y_1+y_2+y_3}{3} \leq \frac{1+1-1}{3} \leq \frac{-1}{3} \leq -1$$



$$\begin{array}{c|ccc} -10 & -12 & 1 & \\ \hline -2 & 12 & 1 & \\ \hline 12 & 1 & 1 & \end{array} \quad \begin{array}{l} \text{1- (الف) درین} \\ s^{1/4} (-10 - 12s + 1) + (-2) (9 + 12s - 10) + s^{1/4} (-92) \end{array}$$

$$s - 12 \rightarrow s + 12$$

$$-y s \frac{12n+1}{12n-12} \quad \text{1- (الف) درین} \quad \text{2- (ب) درین}$$

$$y s \frac{-12n+1}{-12n-12} \quad \text{2- (ب) درین}$$

$$x s \frac{12y+1}{12y-12} \rightarrow y s \frac{12n+1}{12n-12} \quad \text{3- (ج) درین}$$

$$-x s \frac{-12y+1}{-12y-12} \rightarrow y s \frac{-12n+1}{-12n-12} \quad \text{4- (د) درین}$$

$$x' s x - 2 \rightarrow x s x' + 2 \rightarrow x s x' + 2 \quad y s \frac{12n+1}{12n-12} \quad \text{5- (الف) 9}$$

$$y' s y - 12 \rightarrow y s y' + 12 \rightarrow y s y' + 12$$

$$\rightarrow y' s \frac{12(n'+2)+1}{(n'+2)-12} \rightarrow y' s \frac{12n'+25}{n'-1} + 12 \rightarrow y' s \frac{12n'+25}{n'-1}$$

$$x s x' + 12, y s y' + 12 \quad \text{6- (ب)}$$

$$\rightarrow y' s \frac{12(n'+2)+1}{(n'+2)-12} \rightarrow y' s \frac{12n'+25}{n'-1} - 12 \rightarrow y' s \frac{12n'+13}{n'-1}$$



$$\begin{cases} 14 & \mu x + \varepsilon y s^2 & x s - \frac{\begin{vmatrix} b & c \\ b' & c' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}}, & y s \frac{\begin{vmatrix} a & c \\ a' & c' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}} : \text{نقطة التقاطع} \\ 15 & x - \alpha y s \mid x^2 \rightarrow * \end{cases}$$

$$\begin{aligned} 16 & \\ 17 & \left. \begin{aligned} x s - \frac{\begin{vmatrix} \kappa & -\gamma \\ -\alpha & -1 \end{vmatrix}}{\begin{vmatrix} \mu & \kappa \\ 1 & -\alpha \end{vmatrix}} & s - \frac{-\xi + 10}{-10 - \xi} & s \frac{10}{-19} \end{aligned} \right\} \begin{aligned} & \mu x + \varepsilon y s^2 \quad \text{حيز} \\ & * \mu x - 10 y s^2 \end{aligned} \\ 18 & \end{aligned}$$

$$19 y s - 1 \rightarrow y s^{-1/19}$$

$$, x s \alpha (-1/19) + 15 \frac{10}{19}$$

$$\begin{aligned} 19 & \\ 20 & \left. \begin{aligned} y s \frac{\begin{vmatrix} \mu & \gamma \\ 1 & 1 \end{vmatrix}}{\begin{vmatrix} \mu & \kappa \\ 1 & -\alpha \end{vmatrix}} & s \frac{\mu - \gamma}{-19} & s \frac{11}{-19} \end{aligned} \right\} \end{aligned}$$

