$a=6: \operatorname{tin}, \frac{9+6 a}{5}=9$

$$
{ }_{4110}^{3} N 1 P(3)
$$

$\frac{z_{C}-z_{B}}{z_{A}-z_{B}}=\frac{-1-3 i}{-3+i}=\frac{(1+3 i)(3+i)}{(3-i)(3+i)}=i=e^{i \frac{\pi}{2}}(1-$ II $\frac{\left|Z_{C}-Z_{B}\right|}{\left|Z_{A}-Z_{B}\right|}=\frac{B C}{B A}=1$, agg $\left(\frac{Z_{C}-Z_{B}}{Z_{A}-Z_{B}}\right)=(\overrightarrow{B A}, \overrightarrow{B C})=\frac{\pi}{2}$
 $\frac{Z_{C}-Z_{A}}{Z_{B}-Z_{A}}=\frac{2-4 i}{3-i}=1-i=\sqrt{2 e^{i\left(-\frac{\pi}{4}\right)}}$ i2

$$
z_{c}-z_{A}=\sqrt{2} e^{i(-\pi / 4)}\left(z_{B}-z_{A}\right)
$$

$z^{\prime}-w=r e^{i \theta}(z-w): t, i, j$ g


: AS 朝"能y bob: $\frac{b}{1-a}=z_{A}$ q $\quad a=\sqrt{2}\left(\operatorname{sos}-\frac{\pi}{4}+i \sin -\frac{\pi}{4}\right)=\frac{1-i}{1-i}$

$$
z=(1-i) z-2): E i n, \quad b=-2
$$

$z^{\prime}=z-i z-2 \quad: 4 z^{\prime}=(1-i) z-2(4$ $z^{\prime}-z=-i(z-\varepsilon i):$ qis $^{\prime} \quad z^{\prime}-z=-i z-2$

$$
\frac{z^{\prime}-z}{z-2 i}=\frac{z^{\prime}-z}{z-z_{A}}=-i=e^{i(-\pi / 2)}
$$

$\left\lvert\, \frac{\mid z(z)}{\left|z^{-z} A\right|}-\frac{M M^{\prime}}{A M^{\prime}}=1\right., \arg \left(\frac{z^{\prime}-z}{z-Z A}\right)=\left(\overrightarrow{A M}, \overrightarrow{M M^{\prime}}\right)=-\frac{\pi}{2}$

$\left|Z^{\prime}\right|=|z| \quad{ }^{\prime} \mathrm{B}$ LE OM' OM 15 $|(1-i) z-z|=|z|$

$$
|(1-i)(x+i y)-2|=|x+i y|
$$

$$
|(x+y-2)+i(-x+y)|=|x+i y|
$$

$$
\sqrt{(x+y-z)^{2}+(y-k)^{2}}=\sqrt{x^{2}+y^{2}}
$$

$$
\begin{aligned}
& P_{A}=\frac{6}{12}+\frac{2}{12} \times \frac{6}{11}+\frac{2}{12} \times \frac{1}{11} \times \frac{6}{10}=\frac{3}{5}=0,6 \\
& P_{2}=1 . P_{1}=\frac{2}{5}=0,4 . \\
& z^{2}-4 z+8=0 \\
& 3(4) \\
& \text { (1-I } \\
& \Delta=-16=16 i^{2}=(4 i)^{2} \\
& \text { (cienl,io) }\left(z_{2}=2+2 i, z_{1}=2-2 i\right. \\
& \left\{\begin{array}{l}
2 \bar{z}_{1}+z_{2}=6 \\
z_{1}+z_{2}=3+i
\end{array}:\left\{\begin{array}{l}
2 z_{1}+\bar{z}_{2}=6 \\
z_{1}+z_{2}=3+i
\end{array}\right.\right. \\
& \text { z } z_{1}=3+i: \text { Eio, } z_{1}=3-i: 2 \text {, } \\
& \text { (zi=2i) siso, } z_{2}=6-2 \bar{z}_{1}
\end{aligned}
$$

 $f(5,5)=-0,184<0, f(5,6)=0,011>0$






 $\overrightarrow{M I}+\overrightarrow{I C}+\overrightarrow{M I}+\overrightarrow{I D}\|+\overrightarrow{M O}\|=\varepsilon\|\overrightarrow{M I}-\overrightarrow{M A}\|$ $\overrightarrow{\rightarrow 0} \rightarrow 2\|A M+M I\|$ $\|2 \overrightarrow{M I}+\overrightarrow{I C}+\overrightarrow{I D}\|=2\|\overrightarrow{A I}\|$

$\lim _{x \rightarrow+\infty} f(x)=\lim _{x \rightarrow+\infty}\left[x(x-2)(\ln x-2) \frac{4 \text { un }-x]=+\infty(p(1)}{+x \mid}\right.$ $\lim _{x \rightarrow 0} \frac{f(x)}{x}=\lim _{x \rightarrow 0} \frac{x(x-2)(\ln x-2)+1]}{x}=+\infty$ $\lim _{x \rightarrow 0} \frac{f(x)-f(0)}{x-0}=\lim _{x \rightarrow 0} \frac{f(x)}{x}=+\infty 1$
 (yloy sil) ( $f^{\prime}(x)=(2 x-2)(\ln x-2)+\frac{1}{x}\left(x^{2}-2 x\right)+1 \quad$ (P $(2$ $f^{\prime}(x)=2(x-1)(\ln x-2)+(x-1)=(x-1)(2 \ln x-3)$ - $x=e^{3 / 2}$ st $\ln x=\frac{3}{2} e^{\frac{9 y}{3} / 2} x=146 f^{\prime}(x)=0$
 .

$x(x-2)(\ln x-2)=0$ ises $f(x)=x(p / 3$ $C\left(e^{2}, e^{2}\right), \quad B(2 ; 2), A(0,0)$
 $(f(x)-x)$






' 31,5 T1, $6[\mathrm{~J}$ Liug : $f(1,6)=0,06<0$ g $f(1,5)=0,01>0$
 $x \in]-\infty, 0[v] 0, b[G f(x)>0$ g $\quad x \geqslant b \quad \cup f(x) \leqslant 0$ $e^{-1 / a}=a^{2} \sin , \frac{A}{a^{2}} e^{-1 / a}=1$ s) $g(a)=1$ U Jf

$$
\left.f(a)=-a+1+e^{1 / a}=-a+1+a^{2} \cdot i\right]
$$

$1,96<a^{2}<द 25,1,4<-a<1,5$ e $-1,5<a<-1,4$ $4,36<a^{2}-a+1<4,75<\operatorname{sing} 3,36<a^{2}-a<3,75$

$$
4,36<f(\alpha)<4,75
$$



(\&éeso) b $\left(M_{0} \leqslant 2 \quad \mu_{0}=2: n=0 / P(5\right.$
 $\frac{-1}{b} \leqslant \frac{-1}{u_{n}} \leqslant \frac{1}{2} \leqslant \frac{1}{2} \leqslant \frac{A}{u_{n}}<\frac{1}{b}<b<M_{n} \leqslant 2$ $e^{-1 / b}+1<1+e^{-1 / 4 n} \leqslant 1+e^{-1 / k}, e^{-1 / b}<e^{-1 / u_{n}} \leqslant e^{-1 / 2}$ $b<u_{n+1} \leqslant \varepsilon: \operatorname{siog} f(b)=0,1+e^{-1 / 2}<\varepsilon ; L$

 - $f\left(U_{n}\right)<0$ 埌 $b<\mu_{n} \leqslant 8 \quad 6 ;$ ins 9

 $l=b$ \&iog $f(l)=0$ us $\lim _{+\infty} u_{n+1}=\lim _{+\infty} u_{n}=l$ $-x+2<f(x)<-x+3 ; x<-2, J$ Jot in : $\frac{: \text { Lali }}{\text { inf(1 }}$ $q(c)$ ب) of is $x=-29 x=-3, y=0:$ \& $4,5<A<5,5$

$$
f(x)>-x+2: x<4 \operatorname{le} \operatorname{li}
$$

 , $\frac{1}{x}>-\frac{1}{2}, x<-2, L \sim N \cdot e^{-1 / 4}-2<0$ $e^{-1 / 4}-2<e^{-1 / 2<c o s i n} g e^{-1 / x} \leqslant e^{-1 / 2}+-\frac{\pi}{x}<\frac{1}{2}$
$A=\int_{-3}^{-2} f(x) d x: x<0.4 f(x)>0 \operatorname{Lin}(2$ IRis. $9-x+2<f(x)<-x+3$ $(4,5<A<5,5)$, is, $\left[-\frac{x^{2}}{2}+2 x\right]_{-3}^{-2}<A<\left[-\frac{x^{2}}{2}+3 x\right]_{-3}^{-2}$


$$
P(\operatorname{An} C)=\frac{1}{2} \times \frac{1}{4}
$$

$$
P(A n C)=\frac{1}{8}
$$

$$
P(C)=P(A \cap C)+P(B \cap C)=\frac{1}{8}+\frac{2}{9}=\frac{25}{72}
$$

$$
P_{C}(A)=\frac{P(A n C)}{P(C)}=\frac{1 / 8}{25 / 12}=\frac{9}{25}
$$

$$
1 / 2 A^{1 / 2} \frac{1 / 2 c}{1 / 2}
$$




$$
\begin{gathered}
\left.\lim _{x \rightarrow 0} e^{-1 / x}=+\infty 0\right)^{x} \lim _{x \rightarrow 0} g(x)=+\infty \\
\lim _{x \rightarrow 0} g(x)=\lim _{t \rightarrow-\infty} t^{2} e^{t}=0 \\
g^{\prime}(x)=\frac{-2}{x^{3}} e^{-1 / x}+\frac{1}{x^{2}} e^{-1 / x} \frac{1}{x^{2}}=e^{-1 / x}\left(\frac{-2 x+1}{x^{4}}\right)(2
\end{gathered}
$$



Eiog: $g(-1,4)=1,04>1, \quad g(-1,5)=087<1$


 $e^{-1 / x}-1>0$ st $f(x)-y>0$ if ( $\Delta$ ) Gُ ( $e$ ) . $x<0$ \&ino $g \frac{1}{x}<0, \frac{1}{x}>0$, $e^{-1 / x}>1$

$$
\begin{aligned}
& \left.f^{\prime}(x)=-1+\frac{1}{x^{2}} e^{-1 / x}=g(x)-1 \quad f p \right\rvert\, 3 \\
& \left.f^{\prime}(x)<0 ; x \in\right]-\infty ; a[v] 0 i+\infty\left[f_{0}, x\right.
\end{aligned}
$$

 (vee all $f^{\prime \prime}(x)=g^{\prime}(x)=\left(\frac{-2 x+1}{x^{4}}\right) e^{-1 / x}(4$


$$
\begin{aligned}
& \lim _{x \rightarrow+\infty} f(x)=-\infty, \lim _{x \rightarrow-\infty} f(x)=+\infty(1 \text {. II } \\
& \lim _{x \rightarrow 0} f(x)=+\infty \quad \text { g } \lim _{x \rightarrow 0} e^{-1 / x}=0 \text { i } \lim _{x \rightarrow 0} f(x)=1 \\
& \text { - (e) ј بés perne } x=0 \\
& \lim _{x \rightarrow+\infty}[f(x)+x-\xi]=\lim _{x \rightarrow+\infty}\left(e^{-1 / x}-1\right)=0 \quad(2
\end{aligned}
$$

