(04   ) : ( ) = ^{3} – (2+4   ) ^{2} – (4– 5   ) +3+ .

1) ( ) = 0 .   …………(0.5   )

2) ( ) = (–) [^{2} – (2 + 3   ) – (1 – 3   )]   ………..(0.5   )

(– = 0) $_2$ = .

[^{2} – (2 + 3   ) – (1 – 3   ) = 0]

Δ = -1 ………(0.5   )

$_1$ = 1 + $_3$ = 1 + 2 .   ………(1)

3) .   ………(0.5   )

($\overleftarrow{\quad}$ $\overleftarrow{\quad}$) $\equiv \frac{\pi}{4}[2\pi]$ ………(0.5   )

$(\frac{ص - ص_1}{ص - ص_2}) \equiv \frac{\pi}{4}[2\pi]$ $\Leftrightarrow$ ($\overleftarrow{\quad}$ $\overleftarrow{\quad}$)$\equiv \frac{\pi}{4}[2\pi]$

.   ………(0.5   )

(04   ) :

1) $_{+1}$ = $\frac{\lambda - 1}{4}$ (– $\frac{2}{1 - \lambda}$) .   ………(0.5   )

$_{+1}$ = $\frac{\lambda - 1}{4}$ (–λ + $\frac{\lambda^2 - \lambda - 2}{1 - \lambda}$) .

( ) $\Leftrightarrow$ λ_1 = - 1 λ_2 = 2.   ………(0.5   )

$-\lambda_1$ =   + =   = $(\frac{1}{2})$.   ………(0.5   )

$-\lambda_2$ =   - 2 =   = $(\frac{-1}{4})$.   ………(0.5   )

= $\frac{1}{2}$ [2$(\frac{1}{2})$ + $(\frac{-1}{4})$] = $\frac{1}{2}$( ) [1 + $\frac{1}{2}$ $(\frac{-1}{2})$]   ………(0.5   )

= $\frac{1}{3}$ [$(\frac{1}{2})$ - $(\frac{-1}{4})$] = $\frac{1}{3}$$(\frac{1}{2})$ [1 - $(\frac{-1}{2})$] .   ………(0.5   )

3) نها س$_ن$ = 0   نها عن$_ن$ = 0   ………(0.25)+(0.25)
ن$\to +\infty$ ن$\to +\infty$

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$$\text{نها } \frac{س^ن}{ع_ن} = \text{نها}_{ن\to +\infty} 3[\frac{1-(-\frac{1}{2})^ن}{1+(-\frac{1}{2})^ن}] = 3 \quad \ldots\ldots\ldots(0.5\ )$$

12) : ( ) = (1 + - ^{2}) . -

1) : ف =]$-\infty$ ، $+\infty$[............(0.25)

: $\text{نها}_{س\to-\infty}$ تا(س) = $-\infty$ $\text{نها}_{س\to+\infty}$ تا(س) = 0 ....(0.25)+ (0.25)

$\forall$ ه : ( )' = (^{2} - 3) . - ....(0.5)

. ...(0.5)

: ....(0.5)

	$-\infty$	0	3	$+\infty$
( )'	+	0	-	0	+
( )		1		0	

( ) $+\infty$ = 0 . ...(0.25)

$-\infty$ . ...(0.25)

2) (1-)= -0.36   (1)= 0.36   (2) = -0.13 ....(0.75)

( ) . ...(1.5)

Φ 1) $\Leftrightarrow$ α = 1   β =1   γ = 0 . ...(0.75)

2) (λ) =4$\int_3^λ$ ( ) - = 48 ه$^{-3}$ - 4 (λ^2 + λ) ه$^{-λ}$ . ...(0.5)

. $\text{نها}_{λ\to+\infty}$ م(λ) = 48 ه^3 . ...(0.25)

1 : $\Leftrightarrow$ ه ؛-{$\frac{1}{2}$} . ...(0.25)

ه ؛- {$\frac{1}{2}$}   (π) (π) . ...(0.5)

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$\frac{1}{2}$ = $(\pi)(\Delta)$:   = - .   ...(0.5)

2)   = 0 : (π).   ....(0.5)

ﻫ ؛*: (Δ) (Δ):   = - .   ...(0.5)

3) $\neq 0$.   , $\longleftarrow$ $\binom{1}{1}\!\!\longleftarrow$.   ....(0.5)

4) $-\frac{1}{2}$ (Δ):   = - .   ...(0.5)

1   (Δ):   = - .   ...(0.5)

-     $(_1)$:   = ($^{2'}$ + ' - 1).ﻩ ' .   ...(0.5)

-     $\neq \frac{1}{2}$.   (1 - 2).

- (Δ):   = - $\binom{1}{1}\!\!\longleftarrow$.   ....(0.75)

-     $(_1)$.   ...(0.5)