$$Z = e^{\frac{1}{2}x} (x+y^{2})$$

$$\{f(x) \cdot g(x)\}' = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

$$\frac{d}{dx} \cdot e^{\frac{1}{2}x} = \frac{1}{2} e^{\frac{1}{2}x}, \frac{d}{dx} (x+y^{2}) = 1$$

$$\frac{d}{dy} \cdot e^{\frac{1}{2}x} = 0, \frac{d}{dy} (x+y^{2}) = 2y$$

$$\frac{d}{dy} \cdot e^{\frac{1}{2}\chi} = 0 \qquad , \frac{d}{dy}(\chi + y^2) = 2y$$

$$Z\chi = \frac{1}{2} e^{\frac{1}{2}\chi} (\chi + y^2) + e^{\frac{1}{2}\chi} = e^{\frac{1}{2}\chi} (\frac{1}{2}\chi + \frac{1}{2}y^2 + 1) = 0$$

$$Zy = (\chi + y^2) + e^{\frac{1}{2}\chi} \cdot 2y = 0$$

$$= \frac{1}{2} e^{\frac{1}{2}x} (x+y^{2}) + e^{\frac{1}{2}x} = e^{\frac{1}{2}x} (\frac{1}{2}x + \frac{1}{2}y^{2} + 1) = (x+y^{2}) + e^{\frac{1}{2}x} \cdot 2y = 0$$

$$= \frac{1}{2}x + \frac{1}{2}y^{2} + 1 = 0 \qquad \exists y = -2 + 2y e^{\frac{1}{2}x} = 0$$

$$= 2x + 2y^{2} = -2 + 2y e^{\frac{1}{2}x} = 0$$

$$Zx = \frac{1}{2}e^{\frac{1}{2}x}(x+y^{2}) + e^{\frac{1}{2}x} = e^{\frac{1}{2}x}(\frac{1}{2}x+\frac{1}{2}y^{2}+1) = 0$$

$$Zy = (x+y^{2}) + e^{\frac{1}{2}x} \cdot 2y = 0$$

$$Zz = \frac{1}{2}x+\frac{1}{2}y^{2}+1 = 0 \qquad Zy = -2 + 2ye^{\frac{1}{2}x} = 0$$

$$\Rightarrow x+y^{2} = -2 \qquad ye^{\frac{1}{2}x} = ($$

$$\Rightarrow (-2,0) \qquad \Rightarrow (0,1)$$

$$Zxx = 1 \qquad Zyy = e^{\frac{1}{2}x} \qquad Zxy = 2y$$

$$H = \begin{vmatrix} 1 & 2y \\ 2y & e^{\frac{1}{2}x} \end{vmatrix} = e^{\frac{1}{2}x} \cdot 4y^{2} \qquad (-2,0) \stackrel{\circ}{\cap} H = \stackrel{1}{e} > 0$$

$$(0,1) \stackrel{\circ}{\cap} H = (-4 = -3 < 0)$$

(-2,0)で極値もとり、アススか1なので極い値をとる.

 $f(-2,0) = e^{-1}(-2) = 2e^{-1} = \frac{2}{e}$