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|-----------------|----------|------------|
| | | |
| - | | |
| 10 - 8 : | : | 3 : |

(04) :

$$\left. \begin{matrix} d = 2 \\ m = 46 \end{matrix} \right\} : \quad (a;b) \quad (1)$$

$\cdot m = \text{ppcm}(a;b) \quad d = \text{pgcd}(a;b)$

. 2012 ((2

$$\cdot m^2 - 26d^2 = 2012 : \quad (a;b) \quad ($$

(05) :

$$\cdot]0,1[\quad \alpha$$

$$u_{n+1} = \alpha + 1 - \frac{\alpha}{u_n} \quad n \quad u_0 = 2 : \quad (u_n)$$

$$u_n \geq 1 : \quad n \quad (1)$$

$$\cdot (u_n) \quad (2)$$

$$\cdot (u_n) \quad (3)$$

$$v_n = \frac{u_n - 1}{u_n - \alpha} : \quad (v_n) \quad n \quad (4)$$

$$\cdot q \quad \cdot (v_n) \quad ($$

$$\cdot \lim_{n \rightarrow +\infty} u_n \quad \cdot n \quad u_n \quad n \quad v_n \quad ($$

(04) :

$$\cdot (o; \vec{i}; \vec{j}; \vec{k}) \quad (E)$$

$$(P) \quad x^2 + y^2 + z^2 - 2x + 4y - 6z - 11 = 0 : \quad M(x; y; z) \quad (S)$$

$$\cdot 4x + 3y - 23 = 0 :$$

$$\cdot r \quad \omega \quad (S) \quad (1)$$

$$\cdot (S) \quad (P) \quad (2)$$

$$\cdot (P) \quad \omega \quad (\Delta) \quad (3)$$

$$\cdot (S) \quad (P) \quad A \quad (4)$$

(07) :

$$f(x) = \frac{e^x}{e^x - 1} : \quad \square^* \quad f \quad (1)$$

$$(o; \vec{i}; \vec{j}) \quad (C_f) \quad (2)$$

$$\ln 2 \quad (C_f) \quad (T) \quad (3)$$

$$(C_f) \quad \omega\left(0; \frac{1}{2}\right) \quad (4)$$

$$(C_f) \quad (4)$$