(**04) :**

(1 n 3^n 5

(2 3^{2011} 3^{2010} 5.

(3 n : $3 \times 8^{2010} + 23^{2011} + n \equiv 0[5]$.

(**06) :**

(u_n) u_1 : $\begin{cases} u_1 + u_3 = 12 \\ u_3 + u_4 + u_5 = 30 \end{cases}$

(1 u_2 u_4.

(2 u_1 r.

(3 u_n n n : $u_n = 32$.

(4 S : $S = u_1 + u_2 + ... + u_{15}$

(**10) :**

f $]-\infty;1[\cup]1:+\infty[$: $f(x) = 1 + \dfrac{2}{1-x}$

(c_f) f $(o;\vec{i};\vec{j})$

(1 f.

(2 $f'(x)$ f.

(3 (c_f).

(4 (c_f) 2.

(5 (Δ) (Δ') 0 2.

(6 (Δ) (Δ') (c_f)