B et k_0 ⇒ intérêt composé.

$P_0 = 3k_0$ (0.8)

$P_0 \Rightarrow n_1 = 5$ ans, $t_1 = 7\%$ $\Rightarrow P_n = P_0(1+t_1)^{n_1} = P_0(1+0,07)^5$ (0.8)

$k_0 \Rightarrow n_2 = 8$ ans, $t_2 = 10\% \Rightarrow k_n = k_0(1+t_2)^{n_2} = k_0(1+0,1)^8$ (0.8)

$P_n + k_n = 3175,62$ (0.8)

$P_n + k_n = P_0(1,4) + k_0(2,14) = 3175,62$ .... (1)

$P_0 = 3k_0$ ... (2)

(1) $\Leftrightarrow 3k_0(1,4) + k_0(2,14) = 3175,62$

$\Leftrightarrow 6,34k_0 = 3175,62 \Rightarrow$ $k_0 = 500,89€$ (0.8)

$P_0 = 3k_0 = 150\,2,67€$

$P_0 = 150\,2,67€$ (0.8)

Ex04 (8pts)

$f(x) = \dfrac{x^2 - 2x + 1}{2x}$

1) $D_f = \mathbb{R}^* =]-\infty, 0[\cup]0, +\infty[$ $D_f = \{x \in \mathbb{R} / 2x \neq 0\}$. (0.5)

2) $\lim\limits_{x \to -\infty} f(x) = \lim\limits_{x \to -\infty} \dfrac{x^2}{2x} = \lim\limits_{x \to -\infty} \dfrac{x}{2} = -\infty$

$\lim\limits_{x \to +\infty} f(x) = \lim\limits_{x \to +\infty} \dfrac{x^2}{2x} = \lim\limits_{x \to +\infty} \dfrac{x}{2} = +\infty$ (0.8) x2

$\lim\limits_{\substack{x \to 0 \\ x < 0}} f(x) = \dfrac{1}{0^-} = -\infty$

$\lim\limits_{\substack{x \to 0 \\ x > 0}} f(x) = \dfrac{1}{0^+} = +\infty$ (0.8) x2