

Ex 3.3.14

$$f \cap g \Leftrightarrow f(x) = g(x) \Leftrightarrow 2x^2 - 4x + 3 = 3x^2 - 12x + 18$$

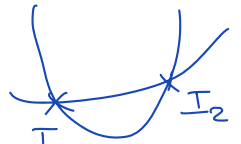
$$\Leftrightarrow 0 = x^2 - 8x + 15$$

$$\Leftrightarrow (x-3)(x-5) = 0$$

$$\Leftrightarrow x = \begin{cases} 3 & \Rightarrow f(3) = 2 \cdot 9 - 4 \cdot 3 + 3 = 9 \Rightarrow \underline{I_1(3; 9)} \\ 5 & \Rightarrow f(5) = 2 \cdot 25 - 4 \cdot 5 + 3 = 33 \Rightarrow \underline{I_2(5; 33)} \end{cases}$$

variante :

$$x = \begin{cases} 3 & \Rightarrow g(3) = 3 \cdot 9 - 12 \cdot 3 + 18 = 9 \Rightarrow I_1(3; 9) \\ 5 & \Rightarrow g(5) = 3 \cdot 25 - 12 \cdot 5 + 18 = 33 \Rightarrow I_2(5; 33) \end{cases}$$



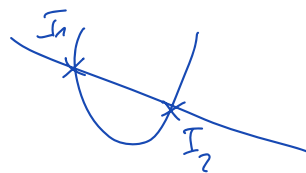
Ex 3.3.18

a) $f \cap g \Leftrightarrow f(x) = g(x)$

$$\Leftrightarrow x^2 - 5x + 4 = -4x + 10$$

$$\Leftrightarrow x^2 - x - 6 = 0$$

$$\Leftrightarrow (x-3)(x+2) = 0$$



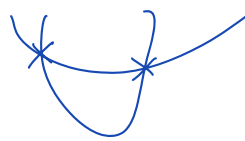
$$\Leftrightarrow \begin{cases} x_1 = 3 \Rightarrow y_1 = f(x_1) = f(3) = 3^2 - 5 \cdot 3 + 4 = -2 \Rightarrow \underline{I_1(3; -2)} \\ x_2 = -2 \Rightarrow y_2 = f(x_2) = f(-2) = (-2)^2 - 5 \cdot (-2) + 4 = 18 \Rightarrow \underline{I_2(-2; 18)} \end{cases}$$

b) $f \cap g \Leftrightarrow f(x) = g(x)$

$$\Leftrightarrow x^2 + x = 2x^2 - 6$$

$$\Leftrightarrow 0 = x^2 - x - 6$$

$$\Leftrightarrow (x-3)(x+2) = 0$$



$$\Leftrightarrow \begin{cases} x_1 = 3 \Rightarrow y_1 = f(x_1) = f(3) = 3^2 + 3 = 12 \Rightarrow \underline{I_1(3; 12)} \\ x_2 = -2 \Rightarrow y_2 = f(x_2) = f(-2) = (-2)^2 + (-2) = 2 \Rightarrow \underline{I_2(-2; 2)} \end{cases}$$