

Exercice 2.6.7

$$(E_p): x^2 - px + 36 = 0$$

Existence des solutions:

$$\Delta = p^2 - 4 \cdot 36 = p^2 - 144 = (p-12)(p+12)$$

P	-12	12
Δ	+	- 0 +
E_p	2 sol 1 sol	aucune sol 1 sol 2 sol

a) $x' = x'' : p = \pm 12$

b) $x' = -x'' :$

$$S = 0 \Leftrightarrow \frac{-b}{a} = 0 \Leftrightarrow p = 0$$

impossible!

c) $x'^2 + x''^2 = 184$

$$\frac{b^2 - 2ac}{a^2} = p^2 - 72 \Rightarrow p^2 - 72 = 184$$

$$\Leftrightarrow p^2 = 256 \Leftrightarrow \underline{p = \pm 16}$$

$$d) \quad \frac{1}{x^I} + \frac{1}{x^{II}} = \frac{5}{12} \Rightarrow -\frac{b}{c} = \frac{p}{36}$$

$$\Rightarrow \frac{p}{36} = \frac{5}{12} \Leftrightarrow \underline{p = 15}$$