CHAPITRE 0 : RENTRÉE

Correction

On effectue directement le calcul de A sans développer. On a

$$\begin{aligned} A &= (3-\sqrt{2})(1+\sqrt{2}) - (1+\sqrt{2})^2 \\ &= [(3-\sqrt{2}) - (1+\sqrt{2})](1+\sqrt{2}) \\ &= (2-2\sqrt{2})(1+\sqrt{2}) = 2(1-\sqrt{2})(1+\sqrt{2}) \\ &= 2(1^2 - (\sqrt{2})^2) = 2(1-2) = -2. \end{aligned}$$

On calcule B en développant. On a

$$\begin{aligned} B &= (-1+5\sqrt{2})(-4+3\sqrt{2}) + (11-\sqrt{2})^2 + 45\sqrt{2} - 145 \\ &= (4-3\sqrt{2}-20\sqrt{2}+30) + (121-22\sqrt{2}+2) + 45\sqrt{2} - 145 \\ &= (4+30+121+2-145) + (-3-20-22+45)\sqrt{2} \\ &= 12. \end{aligned}$$