Correction Super bonus.

Factoriser $A = \underbrace{4(y-3)^2}_{=a^2} - \underbrace{25(1-y)^2}_{=b^2}$

$$A = 2^2(2-y)^2 - 5^2(1-y)^2$$
$$= \big(2(2-y)\big)^2 - \big(5(1-y)\big)^2$$
$$= \big(2(2-y) + 5(1-y)\big)\big(2(2-y) - 5(1-y)\big)$$
$$= (4 - 2y + 5 - 5y)(4 - 2y - 5 + 5y)$$
$$= \underline{(-7y + 9)(3y - 1)}$$

$$B = 3(4y+1)(3y-1) - (\underbrace{16y^2 - 1}_{a^2-b^2})$$
$$= 3(4y+1)(3y-1) - \big[(4y+1)(4y-1)\big]$$
$$= 3\underline{(4y+1)}(3y-1) - \underline{(4y+1)}(4y-1)$$
$$= (4y+1)\big[3(3y-1) - (4y-1)\big]$$
$$= (4y+1)(9y - 3 - 4y + 1)$$
$$= \underline{(4y+1)(5y-2)}$$

Avec la propriété $\sqrt{a \times b} = \sqrt{a} \times \sqrt{b}$

$$C = 12y^2 - 36y + 27 + (2y-3)(y+1)$$
$$= (\sqrt{12}y)^2 - 36y + (\sqrt{27})^2 + (2y-3)(y+1)$$

$\sqrt{12} = \sqrt{3\times4} = \sqrt{3}\times\sqrt{4} = 2\sqrt{3}$

$\sqrt{27} = \sqrt{9\times3} = \sqrt{9}\times\sqrt{3} = 3\sqrt{3}$

donc $C = (2\sqrt{3}\,y)^2 - 36y + (3\sqrt{3})^2 + (2y-3)(y+1)$

$C = (2\sqrt{3}\,y - 3\sqrt{3})^2 + (2y-3)(y+1)$

On vérifie que $2\sqrt{3}\,y \times 2 \times 3\sqrt{3} = 12\sqrt{3\times3}\,y = 12\times3 = 36y$

$$
\begin{aligned}
C &= \left(\sqrt{3}(2y-3)\right)^2 + (2y-3)(y+1) \\
&= 3(2y-3)^2 + (2y-3)(y+1) \\
&= 3\,(\underline{2y-3})(2y-3) + (\underline{2y-3})(y+1) \\
&= (2y-3)\left(3(2y-3) + (y+1)\right) \\
&= (2y-3)(6y-9+y+1) \\
&= \underline{(2y-3)(7y-8)}
\end{aligned}
$$