

Résoudre le système  $\begin{cases} 2x + y = 4 \\ 5x + 3y = 9 \end{cases}$  par combinaison linéaire

|                            | Méthode Sahuguet                                                                                                                                                                                                                      | Méthode Buscail                                                                                                                                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Éliminer les termes en $y$ | $\times (-3) \begin{cases} 2x + y = 4 \\ 5x + 3y = 9 \end{cases}$ $(-3) \times (2x + y) + 5x + 3y = (-3) \times 4 + 9$ $-6x - 3y + 5x + 3y = -12 + 9$ $-x = -3$ $\boxed{x = 3}$                                                       | $\times (-3) \begin{cases} 2x + y = 4 \\ 5x + 3y = 9 \end{cases}$ $+ \begin{cases} -6x - 3y = -12 \\ 5x + 3y = 9 \end{cases}$ <hr/> $-6x + 5x - 3y + 3y = -12 + 9$ $-x = -3$ $\boxed{x = 3}$                                      |
| Éliminer les termes en $x$ | $\begin{matrix} \times (-5) \\ \times 2 \end{matrix} \begin{cases} 2x + y = 4 \\ 5x + 3y = 9 \end{cases}$ $(-5) \times (2x + y) + 2 \times (5x + 3y) = (-5) \times 4 + 2 \times 9$ $-10x - 5y + 10x + 6y = -20 + 18$ $\boxed{y = -2}$ | $\begin{matrix} \times (-5) \\ \times 2 \end{matrix} \begin{cases} 2x + y = 4 \\ 5x + 3y = 9 \end{cases}$ $+ \begin{cases} -10x - 5y = -20 \\ 10x + 6y = 18 \end{cases}$ <hr/> $-10x + 10x - 5y + 6y = -20 + 18$ $\boxed{y = -2}$ |