## Fill In The Blanks...

Simultaneous Equations (same $\times$ coefficient)

| Question | Add or Subtract? | Carry out addition or subtraction | Work out $y$ | Substitute $y$ into one equation | Work out $\boldsymbol{x}$ | Check using other equation | State both answers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} x+3 y & =13 \\ x+y & =7 \end{aligned}$ | Subtract | $\begin{array}{r} x+3 y=13 \\ -x+y=7 \\ \hline 2 y=6 \\ \hline \end{array}$ | $y=3$ | $\begin{gathered} x+3 y=13 \\ x+9=13 \end{gathered}$ | $x=4$ | $\begin{gathered} x+y=7 \\ 4+3=7 \\ \checkmark \end{gathered}$ | $\begin{aligned} & x=4 \\ & y=3 \end{aligned}$ |
| $\begin{gathered} 3 x+y=19 \\ 3 x-4 y=14 \end{gathered}$ | Subtract | $\begin{array}{r} 3 x+y=19 \\ -3 x-4 y=14 \\ \hline 5 y=5 \end{array}$ | $y=1$ | $\begin{gathered} 3 x+y=19 \\ 3 x+1=19 \\ 3 x=18 \end{gathered}$ | $x=6$ | $\begin{gathered} 3 x-4 y=14 \\ 18-4=14 \\ \checkmark \end{gathered}$ | $\begin{aligned} & x=6 \\ & y=1 \end{aligned}$ |
| $\begin{aligned} & x+5 y=22 \\ & -x+2 y=6 \end{aligned}$ | Add | $\begin{array}{r} x+5 y=22 \\ +-x+2 y=6 \\ \hline 7 y=28 \end{array}$ | $y=4$ | $\begin{aligned} & x+5 y=22 \\ & x+20=22 \end{aligned}$ | $x=2$ | $\begin{gathered} -x+2 y=6 \\ -2+8=6 \\ \checkmark \end{gathered}$ | $\begin{aligned} & x=2 \\ & y=4 \end{aligned}$ |
| $\begin{gathered} 2 x-5 y=25 \\ 2 x+3 y=1 \end{gathered}$ | Subtract | $\begin{array}{r} 2 x-5 y=25 \\ -2 x+3 y=1 \\ \hline-8 y=24 \end{array}$ | $y=-3$ | $\begin{gathered} 2 x-5 y=25 \\ 2 x+15=25 \\ 2 x=10 \end{gathered}$ | $x=5$ | $\begin{gathered} 2 x+3 y=1 \\ 10+(-9)=1 \\ \checkmark \end{gathered}$ | $\begin{gathered} x=5 \\ y=-3 \end{gathered}$ |
| $\begin{aligned} & -3 x+y=10 \\ & 3 x+2 y=11 \end{aligned}$ | Add | $\begin{array}{r} -3 x+y=10 \\ +3 x+2 y=11 \\ \hline 3 y=21 \end{array}$ | $y=7$ | $\begin{gathered} -3 x+y=10 \\ -3 x+7=10 \\ -3 x=3 \end{gathered}$ | $x=-1$ | $\begin{gathered} 3 x+2 y=11 \\ -3+14=11 \\ \checkmark \end{gathered}$ | $\begin{gathered} x=-1 \\ y=7 \end{gathered}$ |
| $\begin{gathered} x+2 y=-7 \\ x-6 y=5 \end{gathered}$ | Subtract | $\begin{array}{r} x+2 y=-7 \\ -\quad x-6 y=5 \\ \hline 8 y=-12 \end{array}$ | $y=-1.5$ | $\begin{gathered} x+2 y=-7 \\ x-3=-7 \end{gathered}$ | $x=-4$ | $\begin{gathered} x-6 y=5 \\ -4-(-9)=5 \\ \checkmark \end{gathered}$ | $\begin{gathered} x=-4 \\ y=-1.5 \end{gathered}$ |

