Harder Simultaneous Equations

| (a) | (b) | (c) | (d) |
| :---: | :---: | :---: | :---: |
| $\begin{array}{ll} \text { Solve } & 2 x+3 y-18=0 \\ & x=y+4 \\ & x=6, y=2 \end{array}$ | $\text { Solve } \begin{gathered} 3 x+4 y=8 \\ \\ 6-x=2 y \\ x= \\ x,-4, y=5 \end{gathered}$ | $\text { Solve } \begin{gathered} y=x^{2}-2 x+6 \\ y=x+4 \\ x=2, y=6 \\ \text { or } \\ x=1, y=5 \end{gathered}$ | Solve $\begin{aligned} & x^{2}+y^{2}=50 \\ & y=x-8 \end{aligned}$ $\begin{aligned} & x=7, y=-1 \\ & \text { or } \\ & x=1, y=-7 \end{aligned}$ |
| (e) | (f) | (g) | (h) |
| $\text { Solve } \begin{gathered} x^{2}-5 x=y-5 \\ \\ 2 x+y=5 \\ \\ x=0, y=5 \\ \text { or } \\ x=3, y=-1 \end{gathered}$ | $\text { Solve } \begin{gathered} x^{2}+2 y^{2}=22 \\ \\ 3 x=2 y \\ x=-2, y=-3 \\ \text { or } \\ x=2, y=3 \end{gathered}$ | Solve $\begin{aligned} & x^{2}+y^{2}+x y=12 \\ & x=6-2 y \\ & \\ & x=-2, y=4 \\ & \text { or } \\ & x=2, y=2 \end{aligned}$ | $\begin{gathered} \text { Solve } \begin{array}{c} y=x^{2}+3 x-5 \\ x-y=4 \end{array} \\ x=-1+\sqrt{2}, y=-5+\sqrt{2} \\ \text { or } \\ x=-1-\sqrt{2}, y=-5-\sqrt{2} \end{gathered}$ |
| (i) | (j) | (k) | (1) |
| Find the coordinates of the points where the curve $y=2 x^{2}-3 x-4$ intersects with the line $y=2 x-1$ $\left(-\frac{1}{2},-2\right) \text { and }(3,5)$ | $\begin{gathered} \text { Solve } \begin{array}{c} x y=16 \\ \\ x+y=10 \\ x=8, y=2 \\ \text { or } \\ x=2, y=8 \end{array} \end{gathered}$ | $\begin{gathered} \text { Solve } \quad x+2 y=5 \\ (x-1)^{2}+(y-2)^{2}=20 \\ x=5, y=0 \\ \quad \text { or } \\ x=-3, y=4 \end{gathered}$ | Find the length of the line joining the points of intersection of $y=\frac{x}{2}+1$ and $\begin{gathered} x^{2}+y^{2}=x y+4 \\ (-2,0) \text { and }(2,2) \\ \text { Distance } 2 \sqrt{5} \end{gathered}$ |

