## WorkSHEET 8.1 Simultaneous equations

Name: $\qquad$

1 Use substitution to check whether the coordinate pair $(3,-6)$ is a solution to the following simultaneous equations.

$$
\begin{aligned}
& 3 x+2 y=-3 \\
& 2 x+3 y=-12
\end{aligned}
$$

2 Use substitution to check whether the coordinate pair $(-2,7)$ is a solution to the following simultaneous equations.

$$
\begin{aligned}
4 x-7 y & =-57 \\
3 x+y & =-1
\end{aligned}
$$

3 Solve the following pair of simultaneous equations using a graphical method.

$$
\begin{gathered}
x-y=1 \\
2 x+y=11
\end{gathered}
$$

4 Solve the following pair of simultaneous equations using a graphical method.

$$
\begin{aligned}
& y=1-4 x \\
& y=2 x+7
\end{aligned}
$$

5 Using a graphical method, show that the following pair of simultaneous equations do not have a solution.

$$
\begin{aligned}
y & =2 x-4 \\
4 x-2 y+9 & =0
\end{aligned}
$$

6 Solve the following equations using a graphical method.

$$
\begin{aligned}
& y=x^{2} \\
& y=x+6
\end{aligned}
$$

$7 \quad$ Solve the following pair of simultaneous equations using the substitution method.

$$
\begin{aligned}
y & =3 x-7 \\
2 x-5 y & =48
\end{aligned}
$$

$8 \quad$ Solve the following pair of simultaneous equations using the substitution method.

$$
\begin{aligned}
x+y & =1 \\
2 x-3 y & =17
\end{aligned}
$$

9 Solve the following pair of simultaneous equations using the substitution method.

$$
\begin{aligned}
2 x-y & =22 \\
3 x-4 y & =53
\end{aligned}
$$

10 Solve the following pair of simultaneous equations using the substitution method.

$$
\begin{aligned}
4 x & =-1-3 y \\
6 x-2 y & =5
\end{aligned}
$$

