Solving simultaneous equations

You can solve using substitution or elimination.

Substitution

$x + y = 10 \rightarrow Eq\ 1$

$2x + 3y = 20 \rightarrow Eq\ 2$

$x = 10 - y \rightarrow Eq\ 3$

Sub this x value into Eq 2

$2(10 - y) + 3y = 20$

$20 - 2y + 3y = 30$

$y = 10$

Sub this y value back into Eq 3

$x = 10 - 10 = 0$

$\therefore x = 0,\ y = 10$

Elimination

$x + y = 10 \rightarrow Eq\ 1$

$2x + 3y = 20 \rightarrow Eq\ 2$

Eliminate x

$Eq\ 1 \times 2 \rightarrow 2x + 2y = 20$

$Eq\ 2 \rightarrow \quad 2x + 3y = 30$

Subtracting, we get

$$y = 10$$

Sub this into Eq 1

$$x + y = 10$$

$$x = 10 - 10 = 0$$

$$\therefore x = 0,\ y = 10$$

For linear and quadratic equations or 2 quadratic equations, you will have to substitute. If you using a graph, it is the 2 points of intersection.