



**Maths
Junior Certificate
Higher Level**

**Past Exam Questions on
Simultaneous Equations**

Q3 Part (c) 2011 Paper 1

- (c) A car park can accommodate cars and mini-buses.
On a particular day there were x cars and y mini-buses
in the car park, giving a total of 520 vehicles.
The parking area for a car is 7 m^2 and the parking area
for a mini-bus is 12 m^2 .



On that day a total area of 3840 m^2 was occupied by cars and mini-buses.

- (i) Write down two equations to represent the above information.
- (ii) ✍ Solve these equations to find the number of cars and the number of mini-buses in the car park on that day.

There is a flat rate charge per day for parking.

The flat rate for mini-buses is 3 times that for cars. On that day €3000 was taken in.

- (iii) ✍ What is the flat rate for cars?

Q5 Part (c) 2007 Paper 1

- (c) (i) Let f be the function $f: x \rightarrow 2x - 1$ and g be the function $g: x \rightarrow 4x - 4$.
- ✍ Using the same axes and scales, draw the graph of f
and the graph of g , for $0 \leq x \leq 2$, $x \in \mathbf{R}$.
- (ii) From your graphs, write down the co-ordinates of the point of intersection of the two lines.
- (iii) ✍ Check your answer to part (ii) by solving the simultaneous equations
- $$y = 2x - 1$$
- $$y = 4x - 4.$$

Q3 Part (b) 2006 Paper 1

- (b) Let the cost of a meal for an adult be $\text{€}x$ and the cost of a meal for a child be $\text{€}y$.
The cost of a meal for 3 adults and 2 children amounts to $\text{€}125$.
The cost of a meal for 2 adults and 3 children amounts to $\text{€}115$.
- (i) Write down two equations in x and y to represent this information.
- (ii) ✍ Solve these equations to find the cost of an adult's meal
and the cost of a child's meal.

Q4 Part (b) 2005 Paper 1

- (b) Helen buys stamps costing 48 cent and 60 cent.
She buys a total of 50 stamps costing $\text{€}25.68$.
- (i) Taking x to be the number of 48 cent stamps and y to be the number of
60 cent stamps, write down two equations in x and y to represent this
information.
- (ii) ✍ Solve the equations to find the number of each type of stamp that
Helen has purchased.