

## National 5 Homework : 1 year course

### Simultaneous Equations

1. Solve these simultaneous equations algebraically:

(a)  $5y + 4x = 14$   
 $3y - 4x = 2$

(b)  $2y + 3x = 12$   
 $5y - x = 13$

(c)  $3x + 2y = 24$   
 $2x + 3y = 26$

2. Fiona and Ross each book in at the Sleepwell Lodge.

(a) Fiona stays for 3 nights and has breakfast on 2 mornings. Her bill is £230.

Write down an algebraic equation to illustrate this.

(b) Ross stays for 5 nights and has breakfast on 3 mornings. His bill is £380.

Write down an algebraic equation to illustrate this.

(c) Find the cost of one breakfast.

3. (a) A cinema has 300 seats which are either standard or deluxe.

Let  $x$  be the number of standard seats and  $y$  be the number of deluxe seats.

Write down an algebraic expression to illustrate this information.

(b) A standard seat costs £4 and a deluxe seat costs £6.

When all seats are sold the ticket sales are £1380.

Write down an algebraic expression to illustrate this information.

(c) How many standard seats and how many deluxe seats are there in the cinema?