Simultaneous Equations

Examples:

$$4x + 3y = 33$$
$$7x - 2y = 7$$

$$8x + 6y = 66$$
$$+21x - 6y = 21$$
$$29x = 87$$
$$x = 3, y = 7$$

$$5x + 4y = 12$$
$$4x - 2y = 20$$

$$20x + 16y = 48$$
$$-20x - 10y = 100$$
$$26x = -52$$
$$y = -2, x = 4$$

Remember: If the signs are different, add the lines together.
If the signs are the same, subtract them.

Solve the following simultaneous equations:

Q1) $3x + y = 11$
$2x + 5y = 29$

Q2) $3x + 4y = 54$
$5x + 3y = 68$

Q3) $2x + 9y = 25$
$7x - 2y = 54$

Q4) $4x + 4y = 26$
$2x - y = 1$

Q5) $8x + 2y = 14$
$3x + 5y = -16$

Q6) $7x + 3y = -32$
$3x - 5y = 24$

Q7) $3a + 2b = 4.5$
$4a + 3b = 5$

Q8) $3a + 7b = -37$
$8a + 2b = 68$

Q9) A drink and 3 muffins costs £8.50. 3 drinks and 5 muffins costs £19.50. How much would 2 drinks and 2 muffins cost?

Q10) Holly is buying 6 apples and 8 bananas. This would cost £12. She puts back one of each item and the new price is £10.30. How much does each item cost?

Q11) 2 tables and 6 chairs costs £302. 10 chairs and 3 tables costs £485. How much does 5 tables and 20 chairs cost?

Q12) Harry buys 4 pens and 2 notepads for £12. The difference between the price of a pen and a notepad is £3.75. How much is each item?