

# Simultaneous Equations

## *Two variables - Ex 3*

The following equations in two variables should be solved algebraically, giving the results as normalised rational numbers. Calculators should not be used in doing the necessary arithmetic. Some of these examples may have no solution!

1.  $2p + 3q = 11$   
 $3p + 6q = 22$

2.  $2p + 3q = 11$   
 $4p + 6q = 22$

3.  $2p - 3q = 11$   
 $4p + 6q = 22$

4.  $2p - 3q = 11$   
 $4p - 6q = 22$

5.  $2p + 3q = 11$   
 $4p - 6q = 22$

6.  $2x - y = 17$   
 $x - 2y = 7$

7.  $2x + y = 17$   
 $x - 2y = 7$

8.  $7x - 6y = 11$   
 $3x - 3y = 4$

9.  $7x - 3y = 21$   
 $56x - 24y = 168$

10.  $x - 7y = 12$   
 $7x - y = 34$

11.  $3a + 4b = 5$   
 $6a + 12b = -17$

12.  $5a + 8b = 5$   
 $40b + 11a = 9$

13.  $21a - 18b = 0$   
 $7a + 6b = 2$

14.  $4x - 7y + 1 = 0$   
 $12x - 14y - 1 = 0$

15.  $5x - 4y = 3$   
 $x - y = 0$

16.  $5x + 4y = 3$   
 $x + y = 0$

17.  $3p - 7q + 6 = 0$   
 $12p - q - 3 = 0$

18.  $9x + 5y = 12$   
 $y - x = 1$

19.  $7x + 11y = 23$   
 $y - x = 1$

20.  $3x - 2y = 2$   
 $12x + 2y = 33$