



$p = i - 3j$  and  $q = 4i + 2j$   
Find expression for  $2p + 3q$

14i

Find the magnitude of the vector joining  $A(2, 2)$  and  $B(5, 1)$   
5

Find the vector equation of the straight line which passes through the points  $(2, 2)$  and  $(-2, 3)$   
 $(5+i)(x-2) + (y-2) = 1$

(-3, 8)

Find the vector equation for the line:  $y = 3x + 1$

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 1 \\ 0 \\ 3 \end{pmatrix} + \lambda \begin{pmatrix} 1 \\ 1 \\ 0 \end{pmatrix}$$

Find the Cartesian equation for the line:  
 $2x - y - z = 0$

2/5

Given that  $a = 2i + j - k$  and  $b = i - 2j + k$  find  $|a \times b|$

Find the point of intersection for this pair of lines  
 $r = i + 2j + \lambda k$   
 $r = 2i + j + \mu(3i + 2j + k)$

Find the point of intersection for this pair of lines  
 $r = -2i + 13j + k + 4\lambda$   
 $r = -i - 2j - k + 2\lambda$

Find the point of intersection for this pair of lines  
 $r = -2i + j + \lambda(3i + 2j)$   
 $r = 2i + j + \mu(3i + 2j)$   
 $0 = 6 + 4\mu - 2\lambda$

Find the vector equation for the line:  
 $r = s(2j + k) + t(2i + j)$

8i - 6j

$d = 2i - 4j$  and  $q = 3i + j$  Find expression for  $p - 2q$

(5, 2)

$p = -i + 3j$  and  $q = 4i + 2j$   
Find expression for  $p - 3q$   
 $7i - 7j$

Find the Cartesian equation for the line:  
 $r = i + 2j + \lambda k$   
 $r = 2i + j + \mu(3i + 2j + k)$   
14.3 (39)

(7, -1)

Find the vector equation for the line:  
 $r = 5i + s(2i - j)$

11i - 8j

Find the vector equation for the line:  
 $0 = 8 - 4x - 3y - z$   
 $r = 2j + s(4i + j)$

Find the Cartesian equation for the line:  
 $(4y - 3z - k) + (x - 3y - 2z) = 0$   
 $4x + 3y + 1 = 0$