VECTOR EQUATION OF A LINE

1 **(a)** Find the vector equation of the line through (1, 2) parallel to the vector $\underset{\sim}{i} + \underset{\sim}{j}$.

(b) Find the points corresponding to: **(i)** $\lambda = 0$ **(ii)** $\lambda = -1$ **(iii)** $\lambda = 2$.

VECTOR EQUATION OF A LINE

2 **(a)** Find the vector equation of the line through $(-1, 4, 6)$ parallel to the vector $\underset{\sim}{i} - \underset{\sim}{j} + \underset{\sim}{k}$.

(b) Find the points corresponding to: **(i)** $\lambda = \frac{1}{2}$ **(ii)** $\lambda = 6$ **(iii)** $\lambda = -3$.

3 **(a)** Find the vector equation of the line through $(4, 2)$ parallel to the line joining the points $(-1, 3)$ and $(3, 7)$.

(b) Find the points corresponding to: **(i)** $\lambda = 2$ **(ii)** $\lambda = 4$ **(iii)** $\lambda = 8$.

4 **(a)** Find the vector equation of the line through (2, 3, 4) parallel to the line joining the points (0, 2, 4) and (−5, −3, 6).

(b) Find the points corresponding to: **(i)** $\lambda = -1$ **(ii)** $\lambda = 0$ **(iii)** $\lambda = 1$.

VECTOR EQUATION OF A LINE

6 Find the vector equation of the line through $A(3, 5, 7)$ and $B(6, 4, 5)$.