

4	(a)	$\begin{pmatrix} 15 \\ -12 \end{pmatrix} \text{ or } 15\mathbf{i} - 12\mathbf{j}$	<b>B1</b> <b>B1</b>  <b>[1]</b>	B1 for each element. Allow $\mathbf{i}, \mathbf{j}$ notation without “squiggles”
4	(b)	$6r - s = 0$ $s = 6r$ $0^2 + (9r)^2 = 9$ $81r^2 = 9$ $r = \pm \frac{1}{3}$ $r = \frac{1}{3} \text{ and } s = 2 \quad \text{or} \quad r = -\frac{1}{3} \text{ and } s = -2$	<b>M1</b>  <b>M1</b> <b>A1</b>  <b>A1</b>  <b>A1</b>  <b>[5]</b>	Attempt $ \mathbf{a} ^2 = 9$ , or $ \mathbf{a}  = 3$ ; allow in terms of both $r$ and $s$  Allow just $r = \frac{1}{3}$  Correctly paired