Question Number	Scheme	Marks
6(a)	Speed $= \sqrt{4^2+5^2} = \sqrt{41}$ or 6.4031...m s^{-1} (Accept 6.4 or better)	M1A1 (2)
(b)	$(\mathbf{r} =)\left(3\mathbf{i}-2\mathbf{j}\right)+t\left(\mathbf{4i}+5\mathbf{j}\right)$.	M1A1 (2)
(c)	$\mathbf{j}$ comp $= 6$	
	$5T-2=6$	M1
	$T=\frac{8}{5}$ $(=1.6)$	A1 (2)
(d)	$t=1.6 \Rightarrow (\mathbf{r} =)(3+(4\times1.6))\mathbf{i}$ $(+6\mathbf{j})$	M1A1**ft**
	boy travels $9.4-1=8.4$ m (allow 8.4**i)**	A1
	$\frac{8.4}{1.6}$ or $\frac{8.4\mathbf{i}}{1.6}$	**DM**1
	v = 5.25	A1 (5) **[11]**
	Notes for qu 6	
6a	M1 for attempt to find magnitude of velocity	
	A1 6.4 or better	
6b	M1 for attempt at pv with correct structure i.e. $\mathbf{r}_0 + t\mathbf{v}$	
	A1 for a correct expression seen (ie use isw)	
6c	M1 for equating **j** cpt of their **r** to 6 (Must be of form: $a+bT=6$ oe)	
	A1 for 1.6 oe	
6d	First M1 for substituting their answer for (c), their T, into **i** cpt of their answer for (b) oe	
	First A1 **ft ,** with or without **i**	
	Second A1 for 8.4 or 8.4**i** cao	
	Second DM1, dependent on first M1, for dividing their distance or vector (c**i)** by their T (> 0) value to find the value of v. (9.4/T oe is DM0)	
	Third A1 for 5.25 cao	