

Question			Answer	Marks	AO	Guidance
4			$AE = 4 \cos x^\circ$ $EC = 7 \sin x^\circ$ E is midpoint so $4 \cos x^\circ = 7 \sin x^\circ$ So $\frac{\sin x^\circ}{\cos x^\circ} = \tan x^\circ = \frac{4}{7}$ So $x = 29.7$	M1*	3.1a	Uses basic trig to find an expression for either AE or EC
				M1	3.1a	Equates their expressions
				M1(dep)	1.2	Uses a correct trig identity leading to a value for $\tan x$ or equivalent
				A1	1.1	cao
			Alternative method Triangles BAE and CDE are similar with scale factor 1.75 Let $AE = y \text{ cm} = CE$ $DE = 1.75y$ $\tan x^\circ = \frac{CE}{DE} = \frac{y}{1.75y} = \frac{4}{7}$ So $x = 29.7$	M1*		Identifying similar triangles and the scale factor
				M1		Uses scale factor to find expression for DE or BE as $\frac{4}{7}y$
				M1(dep)		Uses basic trig ratio Also allow use of Pythagoras and another trig ratio instead.
				A1		cao
				[4]		