Question Number	Scheme	Marks
3(a)	$AM = \sqrt{10^2 - 8^2}$, $= 6$	M1,A1 (2)
(b)	$\cos C = \dfrac{26^2 + 16^2 - 26^2}{2 \times 16 \times 26} = \dfrac{256}{832}$ $\left(= \dfrac{4}{13} \quad oe \right)$	M1A1
	$\angle BCD = 72°$	A1cao (3)
(c)	$AD = \sqrt{26^2 - 10^2} = 24$ or $DM = \sqrt{26^2 - 8^2} = 6\sqrt{17}$ oe (24.73...)	M1A1
	$\tan(\angle DMA) = \dfrac{24}{6}$ or $\cos(\angle DMA) = \dfrac{6}{6\sqrt{17}}$ or $\sin(\angle DMA) = \dfrac{24}{6\sqrt{17}}$	M1
	$\angle DMA = 76°$	A1cao (4)
		[9]

(a)		
M1	Use Pythagoras, with a minus sign, to obtain the length of *AM*.	
A1	Correct length obtained.	
NB	Answers w/o working get both marks (use of (3,4,5) triangle)	
(b)		
M1	Use the cosine rule in ΔBCD to obtain a numerical expression for cos *C*. Correct formula in either form may be quoted and substitution attempted or correct formula can be implied by the correct substitution.	
	Complete method needed, so if another angle found first do not award this mark until a value for angle *BCD* is obtained.	
A1	Correct value for the cosine obtained (Decimal to be awrt 0.308 (0.30769...))	
	Award by implication if final answer is awrt 72°.	
A1cao	For 72° (from correct working)	
ALT	**Use the isosceles triangle**	
M1A1	$\cos C = \dfrac{8}{26}$ oe (Any trig function allowed provided work completed to a value for angle *BCD*)	
A1cao	For 72° (from correct working)	
(c)		
M1	Attempt the length of *AD* or *DM* using Pythagoras with a minus sign.	
A1	Correct value for their choice of line,	
M1	Use an appropriate trig function. The length of *AD* or *DM* must have been attempted with a + or a - sign.	
A1cao	Correct answer.	
	Penalise once only in (b) and (c) for failing to round as instructed.	