Question			Answer	Marks	Part Marks and Guidance	
1			Correct angles with correct working and reasons, clearly laid out	5		$\angle$RPQ = 66° alternate angles $\angle$PQR = 66° alt seg e = 180 – 66 – 66 = 48° angles in a triangle
			As 5 but one missing reason **Or** full solution with no more than 1 arithmetic error	4–3	For the lower mark the answer will be correct with > 1 missing reasons	$\angle$RPQ = 66° alternate angles $\angle$QRU = 66° alt seg e = 180 – 66 – 66 = 48° angles on a straight line Condone Z for alternate angles
			2 correct angles **Or** one correct angle with reason	2–1	For the lower mark there will be one correct angle	Accept angles marked on diagram for 1 or 2 marks
			No correct work seen	0		

Question	Answer	Marks	Answer
2	Clear method including - DGH = 59° Angles on a straight line = 180° BDE = 59° Corresponding [angles] DEB = 74° Angles on a straight line = 180° x = 180 – 59 – 74 = 47° Angles in a triangle = 180°	5	'line' & either 'angles' or 180° Condone F angles
	As above but with either • no more than 2 missing/wrong reasons or • no more than 1 arithmetic slip • lack of clarity	4-3	For lower mark either • 47 found NFWW with more than 2 reasons missing/wrong or • full method with no more than 2 arithmetic slips or • full method with 2 missing/wrong reasons and 1 arithmetic slip
	Either • 2 correct angles found or • 1 angle found with reason	2-1	For lower mark 1 angle found without reason
	Nothing of any worth	0	

3	(a)		26	2	**M1** for 325 ÷ (23 + 2) oe or for 13	Condone 299 : 26 for two marks
	(b)		Use of tan	M1	Even if used wrongly	Allow **M1** for use of tan (or tan⁻¹ oe) anywhere in the question
			(Height at end of first stage) = 8.6(08...)	A1	Accept 8.5 to 8.61 even if then used in wrong position on diagram; if not seen, may be implied by further correct working	Throughout question allow complete equivalent methods using Pythagoras and sin and cos
			12.7 − *their* 8.6(08...) or 4.09 to 4.2 or FT	M1		
			$[x =]\tan^{-1}\left(\dfrac{their\,4.09...}{35}\right)$	M1	Dep on 2nd **M1**; condone poor notation	**M0** for just $\tan[x]=\left(\dfrac{their\,4.09...}{35}\right)$
			6.6 to 6.843 or 7	B1	This final mark may still be gained if eg sin⁻¹ used or scale drawing	but **M1** if their answer following this implies they have used invtan

4			30		**B1** for EBA = 75 soi	May be seen on diagram or may be implied by 150
					M1 for 180 − (2 × *their* EBA)	180 − 150 scores **M1B1**

5	(a)	(i) 1	1		accept answer on diagram if answer line blank
		(ii) Alter angles	1	Condone Z angles, alternates **alternative : (**angles on a straight) line (add to 180°) **and** allied/interior angles	more than one conflicting reason then mark the worst eg alternate <u>and</u> corresponding scores 0 however ignore references to "angles in a quadrilateral"
	(b)	71°	4	**B1** for angle ABC = 56 identified **M1** for 360 – 52 – (a)(i) – their 56 clearly linked **or** **B1** angle DGC = 52 identified **A1** for DGF = 128 **and** **M1** for $\dfrac{270 - their\ 128}{2}$ **A1FT** for their correct answer	all angles can be marked on the diagram or identified with a correct label such as DGF