Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
18 **Q1**	39.5	P1	for a start to a process eg, for a correct trigonometric statement, eg $\sin 48 = \frac{7.3}{AC}$ **or** $\cos 42 = \frac{7.3}{AC}$ **or** $\frac{AC}{sin90} = \frac{7.3}{sin48}$ **OR** angle *CAH* unambiguously identified on a diagram	Must include correct values
		P1	for a complete correct process to find *AC*, eg $(AC =) \frac{7.3}{\sin(48)}$ (=9.8..) **or** $(AC =) \frac{7.3}{\cos(42)}$ (=9.8..) **or** $(AC =) \sin 90 \times \frac{7.3}{sin48}$ (=9.8..)	
		P1	for a correct statement using angle *CAH*, eg $\tan(CAH) = \frac{8.1}{"9.8..."}$ **OR** $\sqrt{8.1^2 + "9.8"^2}$ (=12.7…) **and** $\frac{\sin CAH}{8.1} = \frac{sin90}{"12.7"}$	
		A1	for answer in the range 39.5 – 39.51	If an answer is given in the range but then incorrectly rounded award full marks.

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19 **Q2**	31.0	P1 P1 P1 A1	for tan 35 = *BE* ÷ 15 or *BE* =10.5(0...) **OR** finding the length DM = $\frac{2}{5}\times 15 (=6)$ **or** MA = $\frac{3}{5}\times 15 (=9)$ **or** 6:9 **OR** showing the required angle on a diagram eg with an arc for *MB* = $\sqrt{15^2 + \text{“9”}^2}$ or $\sqrt{306}$ or 17.4(9....) **OR** *ME* = $\sqrt{\text{"9"}^2 + \text{"18.3(1 ...)"}^2}$ or $\sqrt{416.(3\ldots)}$ or 20.4(0…) for using appropriate trigonometry ratio to set up an equation in angle *EMB* eg tan θ = “10.5(0...)” ÷ “17.4(9...)” **or** cos θ = “17.4(9…)” ÷ “20.4(0…)” **or** sin θ = “10.5(0…)” ÷ “20.4(0…)” for answer in the range 30.9 to 31	*MB* = $\sqrt{9^2 + 15^2} = \sqrt{306}$ (=17.4(9…) or 17.5) *BE* = 15×tan35 (=10.5(0…)) *AE* = 15÷cos35 (=18.3(1…)) *ME* = $\sqrt{9^2 + 18.31\ldots^2} = \sqrt{416.(3\ldots)}$ (=20.4(0…)) Check diagram for working If an answer is shown in the range in working and then incorrectly rounded award full marks.

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
12 **Q3**	73.6	P1 P1 P1 A1	for correct initial use of Pythagoras eg $5^2 + 5^2$ (=50) **or** a trigonometric ratio in the form $\frac{5 \div 2}{0.5AC}$ = sin 45 oe for finding the length of half of the diagonal eg $\sqrt{"50"} \div 2$ (= 3.5...) **or** $0.5AC = \frac{5 \div 2}{\sin 45}$ (=3.5...) oe for process to use tan eg tan *TAC* = (12 ÷ "3.5..") (=3.3..) **or** complete alternative method arriving at an equation with the subject as sin *TAC* or cos *TAC* for an answer in the range 73.58 to 74.1	do not accept $\sqrt{20} \div 2$

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
20 **Q4**	56	P1	for a correct process to find *AF*, eg $\sqrt{13^2 - 9^2}$ (= 9.38…) **or** $2\sqrt{22}$ **or** $\sqrt{88}$	Decimal values truncated or rounded to 3 sf or more
		P1	for a correct process to find *FH*, eg $\frac{9}{\cos(49)}$ (= 13.7…)	
		P1	for a correct trig statement involving *FAH*, eg $\tan(FAH) = \frac{"13.7..."}{"9.38..."}$	
		A1	answer in the range 55.6 to 56	If a correct answer within the range is shown in working but incorrectly rounded award full marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
18 **Q5**	30.6	P1	for process to find *TC*, eg. (*TC* =) $14 \times \frac{}{3+4}$ (= 6)	Lengths of *TC*, *TD*, *SD* may be seen on the diagram
		P1	for process to find *TD*, eg. (*TD* =) $\sqrt{14^2 + \text{"6"}^2}$ or $\sqrt{232}$ or $2\sqrt{58}$ (= 15.2…)	
		P1	for process to find *SD*, using area of a trapezium, $147 = 0.5 \times (SD + 12) \times 14$, or $SD = 9$	
		P1	for $\tan^{-1}\left(\frac{\text{"9"}}{\text{"15.2..."}}\right)$	A complete set of processes to find the angle is needed where an alternative route is involved with more than one stage in the working
		A1	for answer in the range 30.4 to 30.7	If an answer is given in the range in working and then rounded incorrectly award full marks.