

Pythagoras Theorem Mark Scheme		
1	$6^2 + 8^2 = 36 + 64 = 100$	[1] applying Pythagoras rule
	$BC = \sqrt{100} = 10 \text{ cm}$	[1] final answer
2	$15^2 + 6^2 = 225 + 36 = 261$	[1] applying Pythagoras rule
	$\sqrt{261} = 16.2 \text{ cm}$	[1] final answer (may be to more decimal places)
3	$9.2^2 - 7.8^2 = 84.64 - 60.84 = 23.8$	[1] applying Pythagoras rule
	$\sqrt{23.8} = 4.87852 \dots$	[1] calculation
	Answer = 4.9 cm	[1] final answer to 1dp
4(a)	$5.9^2 + 6.7^2 = 34.81 + 44.89 = 79.70$	[1] applying Pythagoras rule
	$\sqrt{79.70} = 8.927485 \dots$	[1] calculation
	Answer = 8.9 cm	[1] final answer to 1dp
4(b)	$5.9 + 6.7 + 8.9 = 21.5 \text{ cm}$	[1] adding lengths together
5	$4.9^2 - 3.7^2 = 10.32$	[1] applying Pythagoras rule
	$\sqrt{10.32}$	[1] calculation
	= 3.2 cm	[1] final answer to 1dp
	area = $\frac{1}{2} \times 3.7 \times 3.2 = 5.9 \text{ cm}^2$	[1] Area = $\frac{1}{2} \times \text{base} \times \text{height}$ (to 1dp)
6	$3.6^2 - 1.5^2 = 12.96 - 2.25 = 10.71$	[1] applying Pythagoras rule
	$\sqrt{10.71} = 3.27261 \dots$	[1] calculation
	= 3.3 cm	[1] final answer to 1dp
7(a)	$9^2 - 7^2 = 81 - 49 = 32$	[1] applying Pythagoras rule
	$\sqrt{32} = 5.65685$	[1] calculation
	= 5.7	[1] final answer to 1dp
7(b)	$\frac{1}{2} \times 14 \times 5.7 = 39.9 \text{ cm}^2$	[1] Area = $\frac{1}{2} \times \text{base} \times \text{height}$ (to 1dp)
8	Change in $x = 7 - 2 = 5$ Change in $y = 9 - 3 = 6$	[1] Correct values
	$5^2 + 6^2 = 25 + 36 = 61$	[1] applying Pythagoras rule
	$\sqrt{61} = 7.8102 \dots$	[1] calculation
	= 7.81 cm	[1] final answer to 3 sf

Turn over ►

9	$AMC: x^2 + h^2 = b^2$ $CMB: (c - x)^2 + h^2 = a^2$	[1] Correct application of Pythagoras
	$(c - x)^2 - x^2 = a^2 - b^2$	[1] Eliminate h from the expression
	$c^2 - 2cx = a^2 - b^2$	[1] Correct rearrangement

END