

Pythagoras Past Paper Questions (MS)



Q1.

	Working	Answer	Mark	Notes
		26.7	3	M1 for $(GJ^2 =) 24.5^2 + 10.6^2$ or $600.25 + 112.36$ or 712.61 M1 for $\sqrt{24.5^2 + 10.6^2}$ or $\sqrt{712.61}$ A1 $26.69 - 26.7$

Q2.

Question	Working	Answer	Mark	Notes
	$9^2 + 14^2 = 81 + 196 = 277$ $AB = \sqrt{277}$	16.6	3	M1 $9^2 + 14^2$ or $81 + 196$ or 277 M1 $\sqrt{277}$ or $\sqrt{81+196}$ or A1 $16.6 - 16.643$

Q3.

PAPER: 5MB3H_01				
Question	Working	Answer	Mark	Notes
		8.56	3	M1 for $5.2^2 + 6.8^2 (= 73.28)$ M1 for $\sqrt{(5.2^2 + 6.8^2)}$ or $\sqrt{73.28}$ A1 for $8.5 - 8.6$

Q4.

Question	Working	Answer	Mark	Notes
		33.7	P1	for starting to use Pythagoras, e.g. $4.5^2 + 7^2$
			P1	for complete process to find KM , e.g. $\sqrt{4.5^2 + 7^2} (= 8.321658489)$
			P1	(dep P1) for a correct trigonometry statement, e.g. $\sin KLM = "8.32" \dots \div 15$
			A1	for answer in the range 33.6 to 33.7



Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
	7.5	M1 A1	for correct use of Pythagoras, eg. $8.5^2 - 4^2 (= 56.25)$ or $4^2 + x^2 = 8.5^2$ for 7.5 or $7\frac{1}{2}$ or $\frac{15}{2}$	Must have values substituted Trigonometry may be used but M1 only awarded when complete method shown.

Q6.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
		43.5	<p>P1 For process to establish a right-angled triangle with two sides of 5 cm and $9 - 7 = 2$ cm</p> <p>P1 For correct application of Pythagoras, eg. $5^2 + "2" ^2$</p> <p>P1 for a complete process to find perimeter, eg. $9 + 7 + 5 + "5.39" (= 26.385\dots)$</p> <p>P1 for process to find area of square, eg. $(26.385\dots \div 4)^2$</p> <p>A1 for answer in range 43.5 to 43.6</p>

Q7.

Question	Working	Answer	Mark	Notes
		22.6	3	<p>M1 for $19.3^2 + 11.7^2$ or $372.49 + 136.89$ or 509.38</p> <p>M1 for $\sqrt{19.3^2 + 11.7^2}$ or $\sqrt{509.38}$</p> <p>A1 for answer in range 22.5 to 22.6</p>

Q8.



Question	Working	Answer	Mark	Notes
*		No not enough	5	M1 for substituting into Pythagoras' theorem M1 for complete correct use of Pythagoras' theorem M1 for a complete method to find the perimeter of the trapezium A1 51.(20655..) C1 (dep on first two Ms) for correct conclusion dependent upon supporting calculations

Q9.

Question	Answer	Mark	Mark scheme	Additional guidance
	35.3	P1	for starting the process to find length of third side of triangle, eg $9^2 - 6^2 (= 45)$ or $6^2 + x^2 = 9^2$	
		P1	for $\sqrt{9^2 - 6^2}$ or $\sqrt{81 - 36}$ or $\sqrt{45}$ or $3\sqrt{5}$ (= 6.7..) or $r^2 = 45$	
		P1	for stating or using $\pi \times [\text{radius}]^2 \div 4$	[radius] is any value
		A1	for answer in range 35.2 to 35.4	If an answer in the range 35.2 to 35.4 is given in the working space then incorrectly rounded, award full marks No working, answer only, no marks

Q10.

Question	Working	Answer	Mark	Notes
	$\sqrt{5^2 - 4^2} = 3$ $4 \times 8 = 32$ $32 + \frac{1}{2}(3 \times 8)$	44	5	P2 for $\sqrt{5^2 - 4^2}$ or for a height of 3 (P1 for $5^2 - 4^2$) P1 for process to find one area P1 for a complete process to find the total area A1 cao

Q11.



Question	Answer	Mark	Mark scheme	Additional guidance
	280	P1	for starting to use Pythagoras to find the missing side eg $8.4^2 - 7.2^2 (= 18.72)$	Award P1 for a correct Pythagorean statement eg $x^2 + 7.2^2 = 8.4^2$
		P1	for a complete process to find the missing side eg $\sqrt{70.56 - 51.84}$ or $\sqrt{18.72} (= 4.32\dots)$	4.3 truncated or rounded can imply P2
		P1	(dep P1) for a process to find the area of the triangular face eg $[\text{length of base}] \times 7.2 \div 2 (= 15.57\dots)$ OR the volume of the cuboid eg $[\text{length of base}] \times 7.2 \times 18 (= 560.7\dots)$	Uses a figure they show as the length of the base of the right angled triangle but dep on P1 Allow 15.57.. truncated or rounded if unsupported
		P1	for a complete process to find the volume of the prism eg " $15.5\dots$ " $\times 18$ or " $560.7\dots$ " $\div 2$	
		A1	answer in the range 278 – 281	If an answer is given in the range 278 to 281 but then incorrectly given to 3 sig fig this mark can still be awarded.