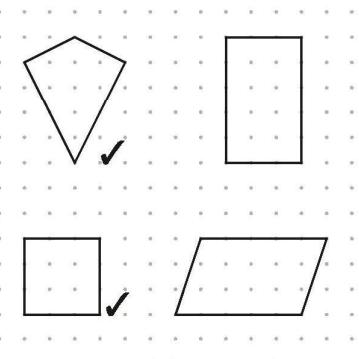


9. Mark schemes for Paper 3: reasoning

Qu.	Requirement	Mark	Additional guidance
1	<p>Award TWO marks for numbers in order as shown:</p> <p>68 82 96 110 124 138 152</p> <p>If the answer is incorrect, award ONE mark for two numbers correct.</p>	Up to 2m	
2a	9	1m	Do not accept –9 or 9–
2b	–6	1m	Do not accept 6–
3	<p>Both clocks ticked, as shown:</p> <p>03:45 02:45 09:45</p> <p style="text-align: center;">✓</p> <p>21:45 14:45</p> <p style="text-align: center;">✓</p>	1m	Accept alternative unambiguous positive indications, e.g. clocks circled or underlined.
4a	$\triangle = 32$	1m	
4b	$\circ = 18$	1m	If the answers to \circ and \triangle are incorrect, award ONE mark if $\triangle + \circ = 50$ unless $\circ = 25$
5	<p>Numbers in order, as shown:</p> <p>0.098 0.607 0.78 4.003 5.6</p>	1m	

Qu.	Requirement	Mark	Additional guidance
6	<p>Award TWO marks for the correct answer of 1.07</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> • $1.28 + 1.65 = 2.93$ $4 - 2.93$ <p>OR</p> <ul style="list-style-type: none"> • $4 - 1.28 = 2.72$ $2.72 - 1.65$ <p>OR</p> <ul style="list-style-type: none"> • $4 - 1.65 = 2.35$ $2.35 - 1.28$ 	Up to 2m	<p>Accept for ONE mark an answer of 107 metres as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of ONE mark.</p>
7a	c AND e	1m	Letters may be given in either order.
7b	a AND d	1m	Letters may be given in either order.
8	<p>Award TWO marks for the correct answer of 35p OR £0.35</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> • $50p + 20p + 10p + 10p + 5p = 95p$ $\text{£}2.00 - 95p = \text{£}1.05$ $\text{£}1.05 \div 3$ 	Up to 2m	<p>Accept for ONE mark an answer of £35 OR £35p OR 0.35p as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of ONE mark.</p>
9a	46	1m	The answer is a time interval (see page 10 for guidance).
9b	10:44	1m	The answer is a specific time (see page 11 for guidance).
10	C	1m	Accept 18
11	<p>Award TWO marks for the correct answer of 2,970</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method with no more than one arithmetic error, e.g.</p> <ul style="list-style-type: none"> • $11 \times 6 = 66$ 66×45 	Up to 2m	<p>Do not accept sight of a correct multiplication only, e.g. $11 \times 6 \times 45$, for ONE mark.</p> <p>Misreads are not allowed.</p>

Qu.	Requirement	Mark	Additional guidance								
12	The triangle has moved 6 squares to the right and 5 squares down.	1m									
13	<p>Award TWO marks for the correct answer of 15</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> • $4.5 \times 3 = 13.5$ $13.5 - 6 = 7.5$ 7.5×2 	Up to 2m	<p>Answer need not be obtained for the award of ONE mark.</p> <p>Misreads are not allowed.</p>								
14a	3,600	1m	Misreads and transcription errors are not allowed.								
14b	1,440	1m									
15	<p>Award TWO marks for three boxes completed correctly as shown:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr> <td colspan="2" style="padding: 5px;">Rounded to nearest hundred</td> </tr> <tr> <td style="padding: 5px;">20,906</td> <td style="padding: 5px;">20,900</td> </tr> <tr> <td style="padding: 5px;">2,090.6</td> <td style="padding: 5px;">2,100</td> </tr> <tr> <td style="padding: 5px;">209.06</td> <td style="padding: 5px;">200</td> </tr> </table> <p>If the answer is incorrect, award ONE mark for two boxes correct.</p>	Rounded to nearest hundred		20,906	20,900	2,090.6	2,100	209.06	200	Up to 2m	
Rounded to nearest hundred											
20,906	20,900										
2,090.6	2,100										
209.06	200										
16	<p>Award TWO marks for the correct answer of 3</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> • $2.5 \times 6 = 15$ $15 \div 5$ 	Up to 2m	<p>Answer need not be obtained for the award of ONE mark.</p> <p>Misreads are not allowed.</p>								
17	A	1m	Accept alternative unambiguous positive indications of the correct triangle, e.g. $2\frac{1}{2}$ or 2.5								

Qu.	Requirement	Mark	Additional guidance
18	<p>Award TWO marks for both kite AND square ticked as shown.</p>  <p>If the answer is incorrect, award ONE mark for:</p> <ul style="list-style-type: none"> • kite AND square and not more than one incorrect shape ticked <p>OR</p> <ul style="list-style-type: none"> • one correct shape only ticked. 	Up to 2m	Accept alternative unambiguous positive indications, e.g. shapes circled.
19	<p>Numbers circled as shown:</p> 	1m	Accept alternative unambiguous positive indications, e.g. numbers ticked or underlined.
20	<p>Award TWO marks for the correct answer of £11.40</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> • $£1.25 + £1.60 = £2.85$ • $£2.85 \times 4$ 	Up to 2m	<p>Accept for ONE mark an answer of £1,140 OR £1,140p OR £11.4 as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of ONE mark.</p>
21	<p>An explanation that shows that 5,868 can be made by adding 326 to 17×326, e.g.</p> <ul style="list-style-type: none"> • '$5542 + 326 = 18 \times 326$' • '$18 \times 326$ is 326 more than 5,542' • 'Because this is the same as $17 \times 326 = 5542$ so add one more 326 to get the answer' • 'You add 326 to 5,542 and your answer will be correct' • 'Because you can add 326 to the answer of 17×326' • '$5542 + 326$'. 	1m	<p>Do not accept an explanation that simply calculates $326 \times 18 = 5,868$</p> <p>Do not accept vague or incomplete, or incorrect explanations, e.g.</p> <ul style="list-style-type: none"> • 'You could add another 326' • 'The difference between 17 and 18 is 1 so you add 326 and that is one more' • 'Because if you turn the question around you would see that $17 \times 326 = 5542$ so all you need to do is times the number one more time' • '$5,542 + 326$ because it is one more' • '$5868 - 326 = 5542$'