

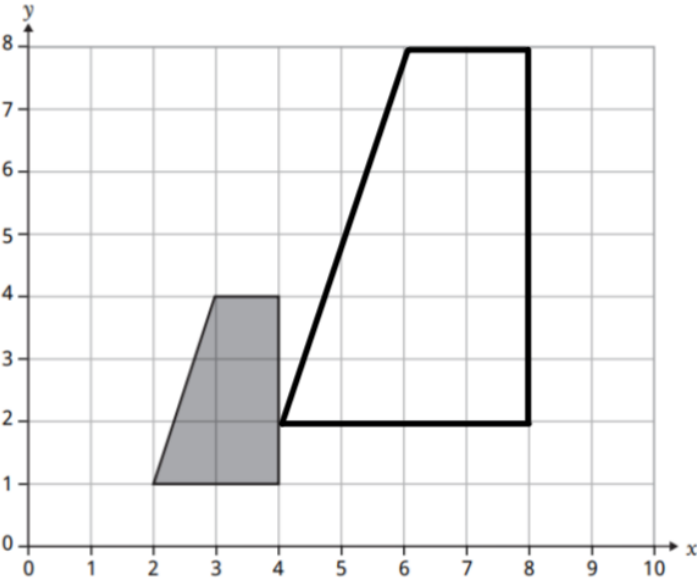
# Year 10 Autumn Foundation Calculator Paper Mark Scheme

Question	Answer	Marks	Notes and guidance
1	(£)32	1	
2a	169	1	
2b	7	1	
3a	0.3 (kg)	1	Do not accept incorrect units
3b	3100 (mm)	1	Do not accept incorrect units
4a	1.944023152	1	
4b	1.94	1	Follow through their answer to a
5a	3c	1	
5b	6hp	1	Allow 6ph
5c	$7w + 5t$	2	Allow $5t + 7w$ Award 1 mark for either term correct Do not ignore subsequent working if then e.g. $12tw$ seen. Maximum 1/2
6a	Marks B at $\frac{1}{2}$ on probability scale	1	Allow slight error if intention clear
6b	Marks G at $\frac{1}{4}$ on probability scale	1	Allow slight error if intention clear
6c	Marks P at 0 on the probability scale	1	
7a	$y = 3.2$	2	Award 1 mark for first correct step $5y = 16$ or $y - 1.2 = 2$

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7b	$x = 1\frac{7}{16}$ or equivalent.	3	Allow $1.4375$ , $\frac{23}{16}$ etc. for 3 marks Award 1 mark for expanding bracket correctly or dividing both sides by 4 Award 2 <sup>nd</sup> mark for correct next step
8	$\frac{2}{7}$ , 30%, 0.32, $\frac{1}{3}$ , $\frac{4}{10}$	2	Accept answers in any form Award 1 mark for converting all values to a consistent form
9	5.10 cm	3	Award 1 mark for attempt to use Pythagoras' theorem Award 1 mark for $XZ = \sqrt{26}$ or 5.09901514 Final mark for correct rounding. Ignore units.
10a	$x > 3$	2	Award 1 mark for first correct step $7x > 21$ or $x - \frac{3}{7} > \frac{15}{7}$ or 3 seen as part of final answer Do not allow $x = 3$ or $x < 3$ for 2 marks
10b	4	1	Follow through their answer to a
11a	55%	1	
11b	36 people	2	Award 1 mark for any complete method to find 9% of 400
12a	40 (km)	1	Do not accept just 40
12b	45 (minutes)	1	
12c	80 (km/h)	2	Allow 1 mark for correct method e.g. $40 \div 0.5$ or $40 \div \frac{1}{2}$ seen

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13		<p>Award 2 marks for any fully correct enlargement by scale factor 2 from any centre, or at least two correct points</p> <p>Award 1 marks for any fully correct enlargement by any scale factor except 1</p> <p>3</p>	
14a	15.6 (cm)	2	Award 1 mark $12 \div 5$ , 2.4 or $6.5 \div 5 \times 12$ seen
14b	7.5 (cm)	2	Award 1 mark for $5 \div 12$ , 0.4166... or $18 \div 12 \times 5$ seen
15	<p><math>107^\circ</math> with reasoning e.g.  <math>\angle AQR = \angle CRS</math> because corresponding angles are equal  <math>\angle QRS = 107^\circ</math> because angles on a straight line sum to <math>180^\circ</math></p>	3	<p>Award 3 marks for correct answer with any completely correct chain of reasoning</p> <p>Award 2 marks for correct answer without reasons – could be on diagram</p> <p>Award 1 mark for working one 1 relevant angle <math>\angle RQB</math>, <math>\angle QRC</math>, <math>\angle QRD</math> – could be on diagram</p>

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16a	4.36 (cm)	2	Award 1 mark for $\sin 43 = \frac{PQ}{6.4}$ or equivalent
16b	20.6 (°)	2	Award 1 mark for $\tan x = \frac{4.5}{12}$ or equivalent Award full marks if rounded correctly with correct units
17	$x = 2, y = 1$	2	Award 1 mark for either $x$ or $y$ correct