

Revision F4 (All topics) D [33] MARKSCHEME

1.

(a)	correct translation	2 2 A02.3b	B1 for correct horizontal or vertical translation
(b)	reflection in $x = 0$ oe	3 1 A02.1a 1 A02.3b 1 A03.1a	B2 for reflection B1 for $x = 0$ oe or M2 for a correct double transformation on the grid or M1 for a correct single transformation on the grid

2.

$$\frac{4}{12} \times \frac{3}{11} \times \frac{2}{10}$$

M1, M1

0.018...

M1

1000 × their (0.018...)

M1

comparison of 18 with 16

$$\frac{16}{1000}$$

comparison of 0.018... with 0.016

[4]

3.

18.3	P1	for a start to the process interpreting the information correctly, eg. $T = k\sqrt{L}$ oe
	P1	for next stage in process to find percentage change in T , eg. $\sqrt{1.4}$
	A1	for 18.3 to 18.4

4.

4 : 1	6 2 A01.3b 4 A03.1d	M1 for $(x + 20) : (y + 20) = 5 : 2$ or $(x - 5) : (y - 5) = 5 : 1$ A1 for $\frac{x+20}{y+20} = \frac{5}{2}$ oe A1 for $\frac{x-5}{y-5} = \frac{5}{1}$ oe M1 for solving <i>their</i> simultaneous equations A1 for $x = 80$ or $y = 20$	Do not accept wrong notation for ratio in the final mark, e.g. for 4/1, 4, etc
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5.

D, A, B, C	B1 for at least 2 correct B1 for all correct
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6.

20 [decrease](%)	4 1 A01.1 1 A01.3b 2 A03.1d	M1 for $pV = \text{constant}$ oe M1 for $p_{\text{initial}} V_{\text{initial}} = p_{\text{after}} V_{\text{after}}$ oe M1 for $1 \times 1 = p_{\text{after}} \times 1.25$ oe
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7.

33.8	P1	for recognition of similar triangles or equal ratio of sides
	P1	for process to find CB , eg. $\frac{5}{13} = \frac{13}{CB}$
	A1	for 33.8

8.

$\frac{1}{4}$	P1	starts process eg $\overrightarrow{AB} = 2\mathbf{b} - 2\mathbf{a}$
	P1	process to find \overrightarrow{AP} or \overrightarrow{BP}
	P1	complete process to find \overrightarrow{OP}
	A1	for $\frac{1}{4}$ oe