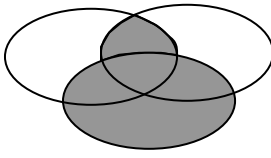
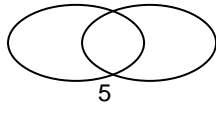
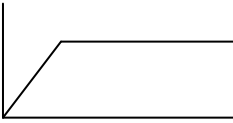
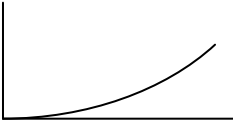
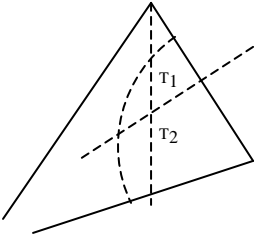


1	(a)	0.09 oe	B1
	(b)	$\frac{24}{35}$ or 0.685 to 0.686	B1
2	(a)	0.09 oe	B1
	(b)	1	B1
3		99 < 100 < 102 < 105 oe (SC1 for 3 or 4 of these in any order or for 39, 40, 42, 45)	B2
4	(a)	2.22	B1
	(b)	0.13 Accept other <u>stated</u> units After 0 + 0 allow SC1 for figs 222 <u>and</u> 13 in answer space	B1
5		Recognition that \$180 $\equiv$ 30% (implied by \$600) 420	M1 A1
6	(a)	Ruled parallelogram correct 'by eye'	B1
	(b)	Ruled kite correct 'by eye' After 0 + 0 allow SC1 for freehand	B1
7	(a)(i)	390 or $3.9 \times 10^2$ cao	B1
	(ii)	(0).020 or $2.0 \times 10^{-2}$ cao	B1
	(b)	8 cao	Indep B1
8	(a)	$3a(3 - 4a)$ oe	B1
	(b)	$(2y - 1)(2y + 1)$ oe	B1
	(c)	$(x - 3)(x - 4)$ oe	B1
9	(a)	12.2 m oe	B1
	(b)	26200 oe (SC1 for figs 262)	B2
10	(a)	$-4 (< x <) - 1$ (SC1 for reversed answers)	B1 + B1
	(b)	-2	B1

11	(a)	18 or $2 \times 3^2$ oe	B1
	(b)	12 cao	B1
	(c)	27 cao	1
12	(a)	225 and 235 6.5 and 7.5 After $0 + 0$ , SC1 for 225 and 6.5 or for each pair reversed	B1 B1
	(b)	$30 \sqrt{\quad}$ v Minimum distance $\div$ maximum time (to 2 significant figures)	B1
13	(a)	4	B1
	(b)	$\frac{5}{x-2}$ (SC1 for $xy = 2x + 5$ )	B2
14	(a)	50	B1
	(b)	30 (Allow 29 to 31)	B1
	(c)	60 (Allow 59 to 61)	B1
15	(a)	$\frac{k}{x+2}$ oe	B1
	(b)	2 (SC1 for $k = 20$ soi)	B2
16	(a)	$\frac{40}{h}$ (SC1 for $\frac{\text{figs } 144}{h \times \text{figs } 6 \times 6}$ )	B2
	(b)	$9\frac{1}{2}$ or $\frac{19}{2}$ (SC1 for $6x - 21 = 6 - 8 + 4x$ )	B2
17	(a) (i)	$30^{(o)}$	B1
	(ii)	$330^{(o)} \sqrt{\quad}$ (v 360 – their (i))	B1
	(b)	$312^{(o)}$	B1
	(c)	$(0)27^{(o)}$	B1

<p>18 (a)</p> <p>(b)</p> <p>(c)</p>	<p>1080</p> <p>2 : 3 or 3 : 2 oe</p> <p>(their scale factor)<sup>3</sup> seen</p> <p><math>\frac{32}{3}</math> oe</p>	<p>B1</p> <p>B1</p> <p>M1</p> <p>A1</p>
<p>19 (a)</p> <p>(b)</p> <p>(c)</p>	<p><math>\begin{pmatrix} 0 &amp; 3 \\ 6 &amp; 3 \end{pmatrix}</math></p> <p>(SC1 for any 3 correct)</p> <p>- 2</p> <p><math>-\frac{1}{2} \begin{pmatrix} 1 &amp; -3 \\ -2 &amp; 4 \end{pmatrix}</math> seen v</p> <p>v <math>\frac{1}{\text{their (b)}} \begin{pmatrix} 1 &amp; -3 \\ -2 &amp; 4 \end{pmatrix}</math></p>	<p>B2</p> <p>B1</p> <p>B1</p>
<p>20 (a)</p> <p>(b)</p> <p>(c)</p>	 <p><math>A \cap B'</math></p> <p>10</p> <p>SC1 for</p> 	<p>B1</p> <p>B1</p> <p>B2</p>
<p>21 (a)</p> <p>(b)</p> <p>(c)</p>	<p><math>BC^2 = 8^2 + 6^2</math></p> <p>10</p> <p><math>\frac{1}{2} \times 5 \times 8</math> oe</p> <p>20</p> <p>0.8 oe v</p> <p>v <math>\frac{8}{\text{their (a)}}</math> or <math>\frac{2 \text{ their (b)}}{5 \text{ their (a)}}</math></p>	<p>M1</p> <p>A1</p> <p>M1</p> <p>A1</p> <p>B1</p>

<p>22 (a)</p> <p>(b)</p> <p>(c) (i)</p> <p>(c) (ii)</p>	<p>2</p> <p>300</p>   <p>Curve from (0, 0) to (10, 100)  v Straight line from (10, their 100) to (20, their (b)) [must have positive gradient]</p>	<p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p>
<p>23 (a)</p> <p>(b)</p>	<p>1000</p> <p>Accept <math>n = 1000</math></p> <p>Compass arc, centre C, <math>r = 6 (\pm 0.2)</math></p> <p>Ruled Perp bisector of AC (tol 0.2 cm, <math>2^\circ</math>)</p> <p>Ruled angle bisector of <math>\hat{A}</math> (<math>\pm 2^\circ</math>)</p> <p>Locus <math>T_1 T_2</math> clearly indicated v</p>  <p>v Dep on attempts at all 3 correct loci</p>	<p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p>
<p>24 (a) (i)</p> <p>(ii)</p> <p>(b)</p> <p>(c)</p>	<p>? A (-4, 0) (-6, -2) (-6, -6) drawn</p> <p>Enlargement, centre (0, 0), SF <math>-\frac{1}{2}</math></p> <p>? B (0, -2) (-1, -3) , (-3, -3) drawn</p> <p>(SC1 if all 3 points found (perhaps in matrix form)  <u>Or</u> if 2 points correctly plotted)</p> <p><math>\begin{pmatrix} 0 &amp; \frac{1}{2} \\ \frac{1}{2} &amp; 0 \end{pmatrix}</math> oe</p>	<p>B1</p> <p>B1</p> <p>B2</p> <p>B2</p>