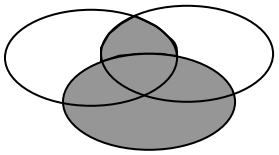
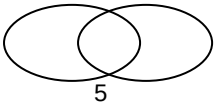
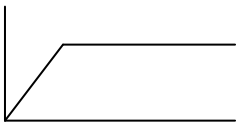
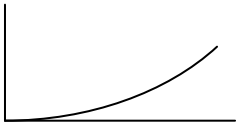
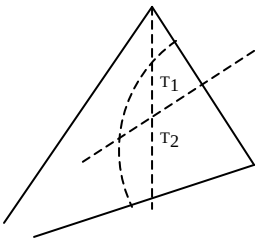
1	(a)	0.09 oe	B1
	(b)	$\frac{24}{35}$ or 0.685 to 0.686	B1
2	(a)	0.09 oe	B1
	(b)	1	B1
3		99 < 100 < 102 < 105 oe (SC1 for 3 or 4 of these in any order or for 39, 40, 42, 45)	B2
4	(a)	2.22	B1
	(b)	0.13 Accept other stated units After 0 + 0 allow SC1 for figs 222 and 13 in answer space	B1
5		Recognition that \$180 ≡ 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 3.9×10^2 cao	B1
	(ii)	(0).020 or 2.0×10^{-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 2×3^2 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 √ v Minimum distance ÷ 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)	$30^{(\circ)}$	B1
	(ii)	$330^{(\circ)\circ}$ √ (v 360 – their (i))	B1
	(b)	$312^{(\circ)}$	B1
	(c)	$(0)27^{(\circ)}$	B1

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

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