1	(a)(i)	$\frac{5}{9}$ i.s.w .or 0.55.. or 0.56 or 55...% or 56%	W1	
	(ii)	$\frac{2}{9}$ i.s.w. or 0.22... or 22...%	W1	
	(b)	$\frac{4}{8}$ or equivalent i.s.w. or 0.5 or 50%	W2	W1 for 4 seen in numerator or W1 for a denominator of 8 Consistent wrong denominators -1 once Wrong form -1 once
			4	

2	(a)	Any **complete** method	M1	
		Figs 1168 or 438 or 228 or 152 or 584 or 292 or 532 seen	W1	Using grid method accept 8 values correct
		£554.80	A1	Answer only W3 for £554.80 W2 for £554.8
	(b)	$14 \div 4$	M1	
		3hour 30 minutes	A2	A1 for 3.5 hours seen Answer only W3 for 3 hours 30 minutes W2 for 3.5(hours)
			6	

1	(a)(i)	$\frac{5}{9}$ i.s.w .or 0.55.. or 0.56 or 55...% or 56%	W1	
	(ii)	$\frac{2}{9}$ i.s.w. or 0.22... or 22...%	W1	
	(b)	$\frac{4}{8}$ or equivalent i.s.w. or 0.5 or 50%	W2	W1 for 4 seen in numerator or W1 for a denominator of 8 Consistent wrong denominators -1 once Wrong form -1 once
			4	

2	(a)	Any **complete** method	M1	
		Figs 1168 or 438 or 228 or 152 or 584 or 292 or 532 seen	W1	Using grid method accept 8 values correct
		£554.80	A1	Answer only W3 for £554.80 W2 for £554.8
	(b)	$14 \div 4$	M1	
		3hour 30 minutes	A2	A1 for 3.5 hours seen Answer only W3 for 3 hours 30 minutes W2 for 3.5(hours)
			6	

3	(a)	$4 < t \leq 5$	W1	
	(b)	$3 < t \leq 4$	W1	
		Contains the middle value	W1	
	(c)	Axes scaled consistently	W1	Reversed axes W0
		Histogram		
		Heights correct	W1	Half small square
		Correctly positioned	W1	
		OR		
		Frequency polygon		
		Heights correct	W1	Half small square
		Midpoints and ruled lines	W1	Ignore outside range 1.5 to 6.5
			6	

4	(a)	Correct reflection	W2	W1 for correct orientation along line $y = 3$ or W1 for reflection in line $y = 1$
	(b)	Rotation or turn and no other transformation	W1	Ignore translation
		90°	W1	270°
		Clockwise about (3 , 0)	W1	Anticlockwise
			5	

5	(a)	Subtract 9, subtract 11	W1	
	(b)(i)	61	W1	
	(ii)	$6n + 1$ or equivalent	W2	W1 for $6n$ or equivalent seen
			4	

6	(a)	(0).08	W1	
	(b)	500	W2	W1 for 125 seen
	(c)	$\frac{11}{4}\times\frac{8}{3}$ or equivalent	M1	
		$7\frac{1}{3}$	A2	A1 for $\frac{88}{12}$ or equivalent seen A1 Answer only W3 for $7\frac{1}{3}$ or W2 for $\frac{88}{12}$ or equivalent
			6	

7	(a)	$10x-5$ seen	W1	
		$10x-6x=1+5$	M1	f.t. their $10x-5$
		1.5 or $1\frac{1}{2}$ or $\frac{3}{2}$ i.s.w.	A1	Answer only W3
	(b)	Multiplication of equation (1) by 2 or Multiplication of equation (1) by 3 and Multiplication of equation (2) by 4	M1	At least 2 terms correct
		Subtracting equations	M1	Dep on first M1 At least 2 terms correct
		$x=3$	A1	Dep on M2
		$y=-4$		Answer only W1
		Substitution method		
		$y=8-4x$	M1	
		$3x+2(8-4x)=1$	M1	
			6	

8	(a)(i) 25	W1	
	(Base angle of) isosceles triangle (equal)	W1	
	(b) 65	W1	
	Angles at the centre is (twice angle at circumference)	W1	
		4	

9	(a) $y+2=4x$ or $-4x=-2-y$ or $\frac{y}{4}=x-\frac{2}{4}$	M1	
	Final answer $(x=)\frac{y+2}{4}$ or $(x=)\frac{y}{4}+\frac{2}{4}$	A1	Answer only W2
	$(x=)[y+2]\div 4$ or $(x=)\frac{-2-y}{-4}$		
	(b) $y=2x+3$ or equivalent	W3	W2 for $y=2x+c$ or M1 for Gradient $=\frac{11-3}{4-0}$ (=2) or 8 and 4 seen for height and width and W1 for $y=mx+3$ W2 for $2x+3$ or equivalent
		5	

10	(a) Final answer $16x+1$	W2	W1 for each or W1 for $12x+3+4x-2$ seen
	(b) $(x+6)(x+4)$ i.s.w.	W2	W1 for $(x\pm 6)(x\pm 4)$ i.s.w.
		4	

Total 50 marks

Section B

11	(a)	SG drawn 7 cm long and GW drawn 5 cm long SW drawn 8 cm long	W1 W1 W1	Allow ± 0.2 cm Allow ± 0.2 cm Allow ± 0.2 cm Incomplete triangle max W2 Wrong scale –1 once
	(b)	96 to 100°	W1	f.t. from their diagram (± 2°)
			4	
12	(a)	240×1.565	M1	Implied by digits 3756
		\$375(.60) or 376	A1	Answer only W2
	(b)	$28.17 \div 1.565$	M1	
		£18	A1	
		£4.49 to 4.5(0)	A1	Answer only W3 After W0 allow SC1 for 7.04 to 7.05 seen
			5	
13		$\pi \times 13^2$	M1	
		530 to 531	A1	Answer only W2
		$36 \times 75 - 2 \times$ their (530 to 531)	M1	Independent
		1630 to 1640	A1	Answer only W4
		cm^2	W1	
			5	

14	(a)(i)	$4x = 17 + 5$	M1	Allow 22 seen
		5.5 or $5\frac{1}{2}$ or $\frac{11}{2}$ i.s.w.	A1	Answer only W2 Accept embedded answer
	(ii)	48	W1	Accept embedded answer
	(b)	One value between 1 and 2 substituted	W1	Result must be seen
		One value between 1.5 and 2 substituted	W1	Result must be seen
		One value between 1.6 and 1.7 substituted	W1	Results must be seen In each case accept 1 sig fig or better values
		1.67	W1	
			7	
15	(a)	$3x + 4x + 5x$	M1	
		$12x$	A1	Answer only W2
	(b)	$\frac{1}{2} \times 4x \times 3x$	M1	
		$6x^2$	A1	Answer only W2 Reversed answers SC2
			4	
16	(a)	0.54	W2	W1 for 0.53(9).... or 0.540 seen or answer 0.55 or 0.5 or W1 for 0.29... seen
	(b)	0.008 or 8×10^{-3}	W2	W1 for fig 8 or W1 for figs 128 seen
			4	

17	5 , 15, 25, 35, 45, 55 seen or used	W1	Accept 4 correct
	$\sum fx$ (=750)	M1	x in range $0 \le t \le 10$ etc
	$\div 60$	M1	Dep on previous M1
	12.5	A1	Answer only W4
			SC2 for answer 7.5 or 17.5
		4	

18	(a)	$475 \times \frac{100+6}{100} (\times 12)$	M2	M1 for $475 \times \frac{6}{100} (\times 12)$ (=28.5)
		6042	A2	A1 for 503.5(0) or 28.5(0) or 342 seen Answer only W4 for 6042 or W3 for 503.5(0) or W2 for 28.5(0) or 342 After W0 allow SC2 for answer 9120
	(b)	$\frac{825}{(4+5+6)} (\times 4)$	M1	Implied by 55
		220, 275, 330	A2	A1 for one correct Ignore order of answers Answer only W3
	(c)	$\frac{324000}{100+35} (\times 100)$	M2	W1 for figs 135 seen
		£240000	A1	Answer only W3
			10	

19	(a) $\tan = \frac{266}{651}$	M2	M1 for $\tan = \frac{651}{266}$
	22 to 22.4	A1	Answer only W3
	(b) $\sin 35 \times 635$	M2	M1 for $\sin = \frac{DC}{635}$
	360 or 364	A2	A1 for 364.....
			Answer only W4 for 360 or 364 W3 for 364.....
			After A0 allow W1 for an answer correct to 2 or 3 significant figures after trigonometry.

Evidence of scale drawing implies no marks for his question

Grads and Rads penalty of 1 in each part.

Answers Grads. (a) 24.6... (b) 330, 332 or 331.7...
Rads (a) 0.388... (b) -270, -272 or -271.8..

7

Total 50 marks