1		Yes	P1	for process to work out the total number of children, e.g. 117 × 4 (= 468)
		(supported)	P1	(dep P1) for process to work out total number of adults or the total number of people, e.g. "468" × 5 ÷ 2 (= 1170) or "468" × 7÷ 2 (= 1638)
			A1	for 1170 or 1638
			P1	for process to work out the percentage of theatre full, e.g. $\frac{"468"+"1170"}{2600}\times 100$ (= 63) or for a process to work out 60% of 2600 (= 1560)
			C1	for a correct conclusion supported by correct figures e.g. 63% or 1560 **and** 1638
				OR
			P1	for a process to work out 60% of 2600, eg. $\frac{60}{100}\times 2600$ (= 1560)
			P1	(dep P1) for process to work out this total number of children, e.g. "1560" × 2 ÷ 7 (= 445(.7…))
			A1	for 445(.7…)
			P1	for process to work out children in the circle, eg. "445(.7…)" ÷ 4 (= 111 to 112)
			C1	for a correct conclusion supported by correct figures e.g. 111 to 112 [Where appropriate accept rounded or truncated values]
1				OR
			P1	for a process to find the maximum number of children, eg. 2600 × 2 ÷ 7 (= 742(.8…))
			P1	for process to work out the total number of children, e.g. 117 × 4 (= 468)
			A1	for 468 and 742(.8…)
			P1	for $\frac{"468"}{"742(.8..)"}\times 100$ (= 63) or process to work out 60% of "742(.8...)" (= 445(.7…))
			C1	for a correct conclusion supported by correct figures e.g. 63% or 468 and 445(.7…) [Where appropriate accept rounded or truncated values]
2		68	P1	for a process to find the number of vanilla cakes, eg 420 × 2 ÷ 7 oe (= 120)
			P1	for a process to find the number of banana cakes, eg 420 × 0.35 oe (= 147)
			P1	(dep P1) for a full process to find the number of lemon/chocolate cakes eg 420 – (vanilla cakes) – (banana cakes) (= 153)
			P1	(dep on previous P1) for a process to find the number of lemon cakes eg "153" ÷ 9 × 4 oe (= 68)
			A1	cao
				OR
			P1	for writing two proportions in the same format
			P1	for combining the proportions of vanilla and banana cakes eg 2/7 + 7/20 (= 89/140)
			P1	(dep P1) for a full process to find the proportion or number of lemon/chocolate cakes eg 1 – "89/140" (= 51/140)
			P1	(dep on previous P1) for a process to find the number of lemon cakes eg "51/140" × 420 ÷ 9 × 4 (= 68)
			A1	cao
3	(a)	120	P1	for $\frac{4\times 450}{15}$ **or** $\frac{4}{15}=\frac{x}{450}$ oe
			A1	cao
	(b)	$\frac{165}{450}$	P1	5.5 **or** 6.5 **or** 165 **or** $\frac{5\times 450}{15}$ (=150) and $\frac{6\times 450}{15}$ (=180)
			A1	for $\frac{165}{450}$ oe
4		0.119	P1	for starting the process, eg finds area 25π or 16π oe, or finds angle for town A, 0 – 19 (70°), may be on diagram
			P1	for a complete process, eg $\frac{70}{360}\times\frac{25\pi}{41\pi}$
			A1	0.118 – 0.119 or 11.8% - 11.9%

5	3 : 5	P1	for process to find 20% **or** 120% of the cost, eg 8500 × 0.2 (= 1700) oe **or** 8500 × 1.2 (= 10 200) oe	When partitioning all figures quoted must be correct or a full method shown eg 10% = 8500 ÷ 10 (=850) and 20% = "850" + "850" (=1700)
		P1	for process to find total cost of payments, eg 12 × 531.25 (= 6375)	
		P1	for complete process to find value of deposit, eg "10 200" – "6375" (= 3825) **or** 8500 – "6375" (=2125) **and** "2125" + "1700" (=3825) **OR** the deposit as a proportion of the total cost, eg $1 - \frac{\text{"6375"}}{\text{"10200"}}$ $(=\frac{3}{8})$	May be seen as a fraction of the total eg $\frac{3825}{10200}$ $(=\frac{3}{8})$
		P1	for finding a correct un-simplified ratio, eg "3825" : "6375" oe **or** 5:3 **or** $1.\dot{6} : 1$ **or** $\frac{5}{3} : 1$	Figures at this stage must be expressed as part of a ratio eg 51:85, $\frac{3}{8} : \frac{5}{8}$
		A1	Accept 1: $1.\dot{6}$, $1: \frac{5}{3}$	Ignore consistent units

6	(a)	8	P1	for process to find sum of unknown probabilities, eg 1 – 0.45 – 0.25 (= 0.3) **OR** to find the total number of counters in the bag, eg $\frac{18}{0.45}$ (= 40) **OR** to find the number of yellow counters, eg $\frac{0.25}{0.45} \times 18$ (= 10)	Award mark for any two probabilities given that sum to 0.3 eg given in the table.
			P1	for process to find P(red) = 0.2 oe **or** P(white) = 0.1 oe **OR** for process to find the total number of red and white counters, eg "40" – 18 – "10" (=12) **OR** for process to derive an equation in x, eg $2x + x = 1 – 0.45 – 0.25$ or $2x + x =$ "0.3" or $x = 0.1$	Award P2 for P(red) or P(white) (could be shown in table) Equations could be given as written statements or working but must be fully equivalent.
			P1	for a complete process to find the number of red counters, eg $\frac{2 \times 0.1}{0.45} \times 18$ or $\frac{2}{3} \times$ "12" or $0.2 \times$ "40" or $\frac{0.2}{0.025}$	
			A1	cao	
	(b)	Explanation	C1	for explanation eg 0.5 multiplied by an odd number will never be a whole number, for half of a number to be an integer that number must be even, you can't have half a marble	

7	No (supported)	P1	for start to process, eg. 2100 × $\frac{40}{100}$ (= 840) **or** 100 – 40 (= 60)	May compare bonus shares of a single salesman or total bonus share for all 7 salesmen.
		P1	for process to find the 7 salesmen's share of bonus, eg 2100 – "840" (= 1260) **or** 2100 × $\frac{\text{"60"}}{100}$ (= 1260)	
		P1	for process to find bonus amount each salesman gets eg "1260" ÷ 7 (= 180) **OR** process to find the total bonus for all salesmen if shared equally, eg $\frac{2100}{10} \times 7$ (= 1470)	
		P1	for process to compare what a single salesman gets under each scheme, eg "180" × $\frac{25}{100}$ (= 45) and "$\frac{2100}{10}$" – "180" (= 30) **or** "180" × $\frac{25}{100}$ (= 45) and "180" + "45" (= 225) oe and $\frac{2100}{10}$ (= 210) **or** ("$\frac{2100}{10}$" – "180") ÷ "180" × 100 (= 16.6...) **OR** process to compare what all salesmen gets under each scheme, eg "1260" × $\frac{25}{100}$ (= 315) and "1470" – "1260" (= 210) **or** "1260" × $\frac{25}{100}$ (= 315) and "1260" + "315" (= 1575) oe and "1470" **or** ("1470" – "1260") ÷ "1260" × 100 (= 16.6...)	
		A1	'No' supported by correct figures, eg 45 and 30, 225 and 210, 315 and 210 **or** 1575 and 1470 **or** 16.(6...)(% and 25%)	Do not award unless correct figures have been shown to support a statement made that the salesman was not correct.

8	20	P1	for start of process, eg $\frac{125}{100}$ oe or $\frac{100}{125}$ oe or $\frac{25}{125}$	Values of amount of cereal and cost may be used, eg. 100g of cereal costing £10 An acceptable start of a process would then be: 125g of cereal costing £10 using Jack's idea
		P1	for a suitable process to develop a percentage, either 80% or 20% eg. $\frac{100}{125}=\frac{x}{100}$ or $\frac{125-100}{125}=\frac{x}{100}$ or $\frac{p}{1.25m}=\frac{xp}{m}$ or $\frac{0.25p}{1.25m}=\frac{xp}{m}$	
		A1	cao	

9 (a)	600	P1	for starting process to calculate amount of flour eg 60 ÷ 15 (= 4) **or** 3 × 50 (= 150)	4 implied by 200g of sugar
		P1	for complete process eg $\frac{60}{15}\times$ "150"	
		A1	cao	
(b)	2	P1	for process to calculate amount of butter eg $\frac{60}{15}\times 2\times 50$ (= 400)	
			OR for process to calculate the number of packs of butter needed eg [butter] ÷ 250	[butter] must be clearly stated or calculated, may be seen in part (a)
		A1	cao	2 must not come from incorrect working

10	96	P1	for process to find the ratio of the number of pens of each colour sold, eg 2 × 7 : 5 × 3 : 6 × 4 (= 14 : 15 : 24)	Does not have to be seen as a ratio but all three needed
		P1	for process to find the proportion of green pens sold, eg $\frac{212}{"14"+"15"+"24"}$ **or** $\frac{"24"}{"14"+"15"+"24"}$	
		P1	for a complete process to find the number of green pens sold, eg $\frac{212}{"14"+"15"+"24"}\times$ "24" **or** $\frac{"24"}{"14"+"15"+"24"}\times 212$	P3 can be implied by the values 56, 60 and 96
		A1	cao	

11	12.85 or 12.86 or 13.5(0)	P1	for 9 + 2 + 1 (= 12)	Award this mark for sight of 4500, 1000 or 500
		P1	for working out how many lots of 175g are needed eg 6000 ÷ "12" × 2 ÷ 175 (= 5.71...)	Process may lead to 5 or 6 instead of 5.71...
		P1	for a complete process eg "5.71..." × 2.25 (= 12.857...)	"5.71…" (ft) may be rounded or truncated.eg "6"
		A1	for 12.85 or 12.86 or 13.5(0)	