1		15	P1	strategy to start the problem, eg $8:20$ and $20:5$
			P1	process to solve the problem, eg $\frac{5}{33} \times 100$ or $24:60:15$
			A1	cao

2	140	P1	for beginning to solve the problem eg $50 \div 5 \times 8 \ (=80)$ **or** $14:8:5$ oe **or** $14:8$ and $8:5$ oe (linked)	80 may be seen in the ratio $80:50$
		P1	for a full process to solve the problem eg "80" $\div 4 \times 7$ **or** $\frac{50}{5} \times$ "14" **or** $140:80:50$	
		A1	cao	If 140 clearly identified as houses in working award full marks

3	168	P1	for working with ratio to find the amount for C or D eg $1.5 \times 2 \ (=3)$ or $(A, B, C, D =) \ 2, 7, 3, 3$ oe **OR** for suitable expressions linking A with C or D, eg. $A = x, C = 1.5x$	
		P1	for "$2 + 3 + 3 + 7$" $(=15)$ **OR** adds 4 suitable expressions, eg. "$x + 3.5x + 1.5x + 1.5x$" $(= 7.5x)$	
		P1	for a complete process to find the amount of money eg $360 \div$ "15" $\times 7$ **OR** $360 \div$ "7.5" $\times 3.5$	
		A1	cao	

4	18	P1	for $240 \div 10 \ (= 24)$ or $240 \div 8 \ (= 30)$	Accept $3 + 7$ for 10, $3 + 5$ for 8
		P1	for $3 \times$ "24" $(= 72)$ **or** $7 \times$ "24" $(= 168)$ **or** $3 \times$ "30" $(= 90)$ **or** $5 \times$ "30" $(= 150)$	
		P1	for $3 \times$ "24" $(= 72)$ **and** $3 \times$ "30" $(= 90)$ **or** $7 \times$ "24" $(= 168)$ **and** $5 \times$ "30" $(= 150)$	
		A1	Cao	

5	$\dfrac{13}{20}$	P1	for finding the fraction who chose either soup ($\frac{2}{5}$ oe) or chose prawns ($\frac{3}{5}$ oe) or for process to share any number in the ratio $2:3$ eg $100 \div (2 + 3) \times 2 \ (=40)$	Starting number 100 Soup : Prawn 40:60
		P1	for a process that could lead to the proportion who chose lasagne or curry for either starter, eg sharing 40% (soup) in the ratio $5:3$ or sharing 60% (prawns) in the ratio $1:5$ or $\frac{2}{5} \times \frac{5}{8}$ or $\frac{2}{5} \times \frac{3}{8}$ or $\frac{3}{5} \times \frac{1}{6}$ or $\frac{3}{5} \times \frac{5}{6}$ or for continuing the process with their starting number to find the number who chose lasagne or curry for either starter	L:C L:C 25:15 10:50
		P1	for a complete process to find the proportion who chose curry for **both** starters, eg $(\frac{2}{5} \times \frac{3}{8}) + (\frac{3}{5} \times \frac{5}{6})$ or to find the number who chose curry for **both** starter for their starting number	$15 + 50 = 65$ and $\frac{15+50}{100}$
		A1	$\dfrac{13}{20}$ or equivalent fraction	

6	6 : 15 : 20	P1	chooses a multiplier to equate the two fractions in terms of b eg $\frac{2}{5} \times \frac{3}{3} (=\frac{6}{15})$ or $\frac{3}{4} \times \frac{5}{5} (=\frac{15}{20})$ or lists equivalent fractions to $\frac{2}{5}$ up to at least $\frac{6}{15}$, eg. $\frac{2}{5}, \frac{4}{10}, \frac{6}{15}, ...$ or lists equivalent fractions to $\frac{3}{4}$ up to at least $\frac{15}{20}$, eg. $\frac{3}{4}, \frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \frac{15}{20}, ...$ or $(a : b =) 2 : 5$ and $(b : c =) 3 : 4$ or for 6 : 15 or 15 : 20 seen	
		P1	puts into related terms ready for ratio eg $\frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$ and $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ or for $(a : b =) 6 : 15$ and $(b : c =) 15 : 20$ or lists equivalent ratios up to a common element for b, eg $a : b = 2 : 5, 4 : 10, 6 : \underline{15}$ and $b : c = 3 : 4, 6 : 8, 9 : 12, 12 : 16, \underline{15} : 20$	Need not be written in ratio form
		A1	for 6 : 15 : 20 oe	Accept equivalent ratios Accept $a = 6$, $b = 15$ and $c = 20$

7	33	P1	for relating 24 to 8 parts or (1 part =) 24 ÷ 8 (= 3) or for 15 – 7 (= 8) or starts to use a build-up method, eg (8 :) 14 : 30	8 parts = 24
		P1	for 15 – 4 (= 11) and 24 ÷ 8 (= 3) or 15 × 3 (= 45) and 4 × 3 (= 12) or for 12 (: 21) : 45	
		A1	cao	

8	(a)	(9, 7.5)	M1	for x coordinate = PO (6) × $\frac{3}{2}$ (=9) or y coordinate = OQ (3) × $\frac{5}{2}$ (= 7.5) or PO (6) × $\frac{5}{2}$ (=15) or OQ (3) × $\frac{3}{2}$ (= 4.5)	
			A1	cao	
	(b)	$y = -2x + 3$	P1	for process to find the gradient of the line, eg 3 ÷ 6 (=0.5) or $y = mx + 3$	Could use P and R or Q and R as ft from (a)
			P1	for process to find gradient of perpendicular eg $- 1 \div$ [gradient of PQ] (= −2)	
			A1	for $y = -2x + 3$ oe	

9	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)	

10	8 : 12 : 9 : 1	P1	for 2 + 3 (= 5) and 9 + 1 (= 10) OR for assigning a total number of sweets for F + G and O + J eg F + G = 100, O + J = 50	May be in algebraic form, eg 2*a* + 3*a* (= 5*a*) and 9*a* + 1*a* (= 10*a*) May be in algebraic form, eg F + G= 5*a*, O + J = 2.5*a*
		P1	for finding correct multiplier for relationship between totals for F + G and O + J eg × 4 to get from 5, 10 to 20, 10 OR for working out the number of sweets from their totals for F, G eg 40, 60 or for O, J, eg 45, 5	
		P1	for 2 × 4 (= 8) and 3 × 4 (= 12) OR for ratio in unsimplified form, eg 40 : 60 : 45 : 5	
		A1	cao	