

## Topic Test 1 Mark Scheme

Ratio and Proportion - Higher

Q	Answer	Mark	Comments	
1(a)	$y = \frac{x}{5}$	B1		
1(b)	5 + 1 : 5 – 1	M1		
	6:4 (= 3:2)	A1		
	Alternative method 1			
2	630 ÷ 100 × 125 or 787.5	M1	oe Works out calories in 90 nuts	
	their 787.5 ÷ 90	M1dep		
	8.75	A1	oe Accept 9 with working	
	Alternative method 2	_		
	90 ÷ 125 × 100 or 72	M1	oe Nuts per 100 g	
	630 ÷ their 72	M1dep		
	8.75	A1	oe Accept 9 with working	
3	2 parts → 9	M1	oe	
			eg 1 : 3, 2 : 6, 4.5 : 13.5	
	9 ÷ 2 × 6	M1	oe eg 4.5 : 13.5 : 27	
	27	A1		

Q	Answer	Mark	Comments		
	Alternative method 1				
	$6 \div (\frac{1}{2} + \frac{1}{4})$ or 8 (portions)	M1	oe eg $\frac{1}{2}: \frac{1}{4} = 4:2$		
	their $8 \times \frac{1}{2} \times 80$ or 320	M1dep	oe eg 4 × 80		
	their 8 × $\frac{1}{4}$ × 100 or 200	M1dep	dependent on first M oe eg 2 × 100		
4	520	A1			
	Alternative method 2				
	$6 \div (\frac{1}{2} + \frac{1}{4}) \text{ or } 8 \text{ (portions)}$	M1	oe		
	$\frac{1}{2} \times 80 + \frac{1}{4} \times 100$ or 65	M1			
	their 40 + their 65 × their 8	M1dep	dependent on both Ms		
	520	A1			
5	(12.5 – 2) ÷ 5 × 2 or 4.2	M1	oe		
	(7.5 – 1) ÷ 5 × 2 or 2.6	M1	oe		
	(6.2, 3.6)	A2	A1 for each correct coordinate		

Q	Answer	Mark	Comments		
6	Alternative method 1				
	4x – 25 and 3x	M1			
	$\frac{4x-25}{3x} = \frac{7}{9}$ or $x = 15$	M1dep	oe eg $9(4x - 25) = 21x$		
	45	A1			
	Alternative method 2				
	Two ratios equivalent to 4 : 3 and 7 : 9 with the second parts common	M1	eg 12 : 9 and 7 : 9		
	Builds up their ratios until the first parts have a difference of 25	M1dep	eg 24 : 18, 14 : 18		
	45	A1			