Detailed Marking Instructions for each question

Question			Generic Scheme	Illustrative Scheme	Max Mark
1.			**Ans: 9 kg bag supported by working**		**3**
			• [1] Strategy: attempt to find price of 1kg of each	• [1] £25·65 ÷ 9 and £57·20 ÷ 20	
			• [2] Process: finds price of one kg of each.	• [2] £2·85 and £2·86	
			• [3] Communication: select best value	• [3] 9 kg bag better value	
			Alternative strategies:		
			Alternative 1		
			• [1] Strategy: attempt to find price of 1kg then multiply by 20	• [1] £25·65 ÷ 9 x 20	
			• [2] Process: calculates correctly	• [2] £57	
			• [3] Communication: select best value	• [3] 9 kg bag better value	
			Alternative 2		
			• [1] Strategy: attempts to multiply and add on additional weight	• [1] 2 × 9 kg + 2 kg 2 × 25·65 and attempt of 2/9 of 25·65	
			• [2] Process: calculates correctly	• [2] 57	
			• [3] Communication: select best value	• [3] 9 kg bag better value	
			Alternative 3		
			• [1] Strategy: attempt to find price of 180kg of each	• [1] 20 × 25·65 and 9 × 57·20	
			• [2] Process: calculates correctly	• [2] 513 and 514·80	
			• [3] Communication: select best value	• [3] 9 kg bag better value	

Question	Generic Scheme	Illustrative Scheme	Max Mark
Notes:			
Commonly Observed Responses:			

Question			Generic Scheme	Illustrative Scheme	Max Mark
2.			**Ans: 6/36 (1/6)** •[1] Strategy: know to find total combinations •[2] Process: find all combinations totalling 10 or more •[3] Communication: state fraction	 •[1] evidence of the 36 combinations •[2] 6 combinations •[3] 6/36 (= 1/6)	**3**

Notes:

1. The combinations need not be listed for award of •[1] and •[2].

2. •[3] can only be awarded if clear evidence of where numerator & denominator came from.

3. a) $\frac{6}{36} = \left(\frac{1}{6}\right)$ no working award 3/3 ✓✓✓

b) $\frac{1}{6}$ **or** $\left(\frac{2}{12}\right)$ no working award 0/3 ×××

4. a) $\frac{3}{36}$ no working award 2/3 ✓×✓

b) $\frac{6}{12}$ no working award 1/3 ×✓×

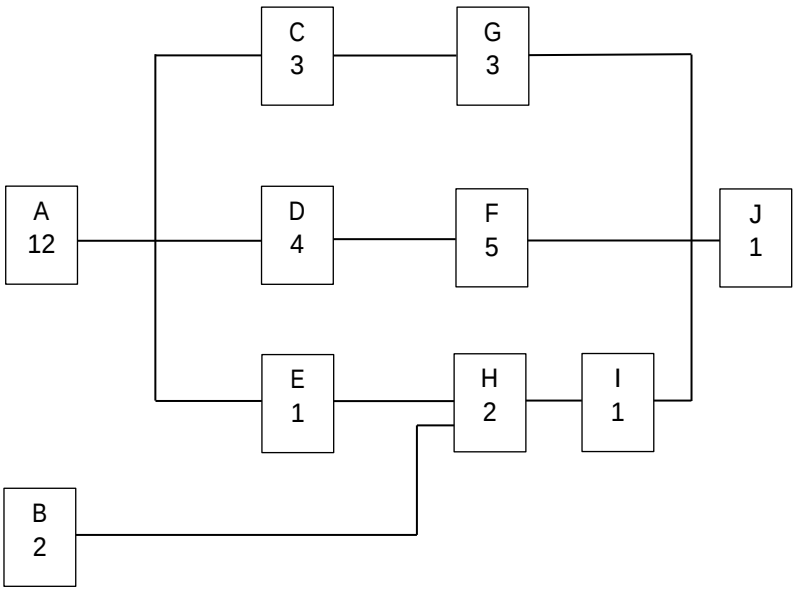
c) $\frac{4}{12}$ or $\frac{3}{12}$ no working award 0/3 ×××

Commonly Observed Responses:

Question			Generic Scheme	Illustrative Scheme	Max Mark
3.			**Ans: 0853 (from Biggar)** • [1] Strategy: evidence of working back from 11.30am • [2] Communication: choose the correct bus	 • [1] evidence • [2] 0853 from Biggar	**2**
Notes: 1. Correct answer with no working award 2/2					
Commonly Observed Responses:					

Question			Generic Scheme	Illustrative Scheme	
4.			**Ans: 7 weeks** •[1] Strategy: knows how to find left over money •[2] Process: finds left over money •[3] Process/Communication: find number of weeks, rounded appropriately	 •[1] $(7{\cdot}30 \times 30) - (5{\cdot}32 + 7{\cdot}68 + 86)$ •[2] 120 •[3] $(388 \div 60 = 6{\cdot}46\ldots) \rightarrow$ 7 weeks	**3**
Notes: 1. Correct answer with no working award 0/3 2. If candidate writes 6·44 •[3] is not available					
Commonly Observed Responses:					

Question			Generic Scheme	Illustrative Scheme	Max Mark
5.	(a)		**Ans: task letters and times inserted correctly** • [1] Strategy: start to allocate tasks • [2] Strategy: complete allocation of tasks	 • [1] any 5 boxes • [2] remaining 4 boxes	**2**



Notes:

1. If candidate puts only correct letter and no number in boxes award 1/2

Commonly Observed Responses:

Question			Generic Scheme	Illustrative Scheme	Max Mark
	(b)		**Ans: Yes supported with working** • [1] Strategy: select critical path • [2] Communication: yes as it only takes 22 months	 • [1] 12 + 4 + 5 + 1 • [2] yes, it takes 22 months	**2**

Notes:

Commonly Observed Responses (No working necessary)

1. 34 $\longrightarrow$ no not possible award 1/2
2. 19 $\longrightarrow$ yes it is possible award 1/2
3. 17 $\longrightarrow$ yes it is possible award 1/2
4. 6 $\longrightarrow$ yes it is possible award 1/2

Question			Generic Scheme	Illustrative Scheme	Max Mark
6.			**Ans: (£)369·95**		**5**
			•[1] Strategy: use correct form of Pythagoras Theorem including 30	•[1] $x^2 = 30^2 + 40^2$	
			•[2] Process: correct length of 4th side	•[2] $\sqrt{2500} = 50$	
			•[3] Strategy: know how to calculate number of rolls	•[3] (50 + 130 + 40 + 160) ÷ 80	
			•[4] Process/Communication: correctly rounded answer	•[4] 4·75 = 5 rolls	
			•[5] Process: calculate cost	•[5] 5 × 73·99 = 369·95	

Notes:

1. •[2] is only available if Pythagoras has been attempted.
2. •[3] is only available if 4 sides have been considered.
3. If only 3 sides are considered only marks •[4] and •[5] are available.
4. •[4] is available for counting up in 80s to 400 leading to 5 rolls needed.
5. If dividing by 80 •[4] is only available if rounding is necessary.

Commonly Observed Responses:

(l × b × h) ÷ 80 = 832000 ÷ 80 = 10400 rolls.•[4] is not available as no rounding is necessary. •[5] is still available for calculating cost

Question			Generic Scheme	Illustrative Scheme	Max Mark
7.			**Ans: (£)7·26** •[1] Strategy: pick correct band •[2] Communication: pick consistent values from table •[3] Process/Communication: conclusion	 •[1] band F (could be implied by subsequent working) •[2] 76·13 and 145 •[3] 2 × 76·13 − 145 = 7·26	**3**

Notes:

1. •[1] and •[2] may be highlighted on the table

Commonly Observed Responses:

1. For 152·25 − 145 = 7·25 award 2/3 ✓×✓
2. For 2 x 79·75 − 145 = 14·50 award 2/3 ✓×✓

Question			Generic Scheme	Illustrative Scheme	Max Mark
8.			**Ans: 138 m^2** •^{1} Strategy: rectangle – ½ circle •^{2} Process: find the area of the sandpit •^{3} Process: find area to be covered in rubber tiles •^{4} Communication: round correctly **and** use appropriate units.	 •^{1} evidence •^{2} $\frac{1}{2}\times 3{\cdot}14\times 3\times 3 = 14{\cdot}13$ •^{3} $8 \times 19 - 14{\cdot}13 = 137{\cdot}87$ •^{4} 138 m^2	**4**

Notes:

1. •^{2} is available for finding area of a whole circle with radius 3 but •^{1} is not available in this case.
2. •^{3} is only available for subtracting from 152.
3. If candidate does $152-14=138$ •^{4} is not available as premature rounding is not appropriate.

Commonly Observed Responses

Question			Generic Scheme	Illustrative Scheme	Max Mark
9.			**Ans: 8 (cm)** •^{1} Strategy: knows how to use scale factor to find area of card •^{2} Strategy: knows to divide scaled area of card by 7 •^{3} Process: find missing length	 •^{1} $4 \times 5 \times 2{\cdot}8$ •^{2} $\ldots \div 7$ •^{3} 8 cm	**3**

Notes:

1. Correct answer with no working 0/3
2. •^{2} is only available for dividing the scaled area by 7.
3. •^{3} is not available to candidates who have not considered the scale factor.
4. For $(4 \times 5 + 2{\cdot}8) \div 7$ award mark •^{2}
5. •^{3} can be awarded for 3·2571… rounded or truncated to at least 1 decimal place. NB do not award •^{3} for 3·24
6. •^{3} is not available if the candidate treats scaled area as the perimeter.
7. eg $(56 - 7 \times 2) \div 2 = 21$

Commonly Observed Responses:

Question			Generic Scheme	Illustrative Scheme	Max Mark
10.	(a)		**Ans: 1/18** •[1] Process: find the correct vertical difference •[2] Process: consistent units between the two values •[3] Strategy/Process: calculate gradient in its simplest form	 •[1] 250 (m) •[2] 4·5 km = 4500 m or 250 m = 0·25 km •[3] 250/4500 = 1/18	**3**
Notes:					
Commonly Observed Responses: 320/4500 = 16/225 award marks •[2] and •[3]					

Question			Generic Scheme	Illustrative Scheme	Max Mark
	(b)		**Ans: Yes, supported by working** • [1] Strategy: know how to compare gradients • [2] Communication: state conclusion consistent with working	 • [1] Convert 1/18 to 2/36 **or** convert 2/25 to 1/12·5 **or** convert both fractions to 25/450 & 36/450 • [2] Yes, 2/25 > 2/36	**2**

Notes:

1. If the candidate's answer to (a) is an improper fraction then only the communication mark is available.

Commonly Observed Responses:

[END OF MARKING INSTRUCTIONS]