Assessment Schedule – 2008

Mathematics: Demonstrate an understanding of straightforward algebraic methods (90799)

Evidence Statement

	Achievement Criteria	No	Evidence	Code	Judgement	Sufficiency
ACHIEVEMENT	Demonstrate an understanding of straightforward algebraic strategies.	1(a)	b is bounce number h is the height of the bounce		Or equivalent.	**Achieved:** **3 × A**
			$h = -10b + 122$	A	Variables do not need to be defined.	
		(c)	Model predicts $h = -10(5) + 122$ $= 72$		Must include statement of 72 (or consistent with part (a))	
			Actual height 68 cm No: actual height is not the same as predicted.	A	Question must be answered consistent with calculation.	
		2(a)	Let w = width,			
			$A = 2w^2$	A	Or equivalent	
		(b)	$w = 2s + 5$	A	Accept equivalent use of any variable and either variable made the subject	

	Achievement Criteria	No.	Evidence	Code	Judgement	Sufficiency
ACHIEVEMENT WITH MERIT	Demonstrate an understanding of a range of algebraic methods in solving problem(s).	1(b)	Domain (1 to 12) or range (0 to 122) indicated. Domain described with reference to whole number values.	A M	Accept inclusion of 0 Implication only acceptable	**Achieved plus** **2 × M** OR **3 × M**
		2(c)	*w formula includes 2n-2* $w = a + 2n - 2$	A M	 Or equivalent.	
		3	$r^2 = r + 1$ $r^2 - r - 1 = 0$ $r \in \{-0.618, 1.618\}$ or $r \in \left\{\frac{1-\sqrt{5}}{2}, \frac{1+\sqrt{5}}{2}\right\}$	M	Equation only acceptable. Accept $\sqrt{r} = r + 1$ for A Should be positive solution only, but accept if both given.	
		4(a)	$V = w(2w)(4w)$ $= 8w^3$	M	Or equivalent.	
ACHIEVEMENT WITH EXCELLENCE	Demonstrate an understanding of algebraic methods in investigating and solving complex problems.	4(b)	Box has volume $V=8w^3$ From part 2 (c), or otherwise, $w = a + 2(n-1)$ Therefore, $V = 8(a + 2(n-1))^3$	A/M E	Replacement evidence. Watch for consistency with 2(c). Or equivalent. Accept use of any variable.	**Merit** **Plus E**

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate an understanding of straightforward algebraic strategies. 3 × A	Demonstrate an understanding of a range of algebraic methods in solving problem(s). Achievement plus 2 × M or 3 × M	Demonstrate an understanding of algebraic methods in investigating and solving complex problems. Achievement with Merit plus 1 × E

The following Mathematics-specific marking conventions may also have been used when marking this paper:

- Errors are circled.
- Omissions are indicated by a caret (^).
- **NS** may have been used when there was not sufficient evidence to award a grade.
- **CON** may have been used to indicate 'consistency' where an answer is obtained using a prior, but incorrect answer and **NC** if the answer is not consistent with wrong working.
- **CAO** is used when the 'correct answer only' is given and the assessment schedule indicates that more evidence was required.
- **#** may have been used when a correct answer is obtained but then further (unnecessary) working results in an incorrect final answer being offered.
- **RAWW** indicates right answer, wrong working.
- **R** for 'rounding error' and **PR** for 'premature rounding' resulting in a significant round-off error in the answer (if the question required evidence for rounding).
- **U** for incorrect or omitted units (if the question required evidence for units).
- **MEI** may have been used to indicate where a minor error has been made and ignored.