Assessment Schedule – 2008

Mathematics: Use coordinate geometry methods (90287)

Evidence Statement

	Assessment Criteria	No.	Evidence	Code	Judgment	Sufficiency
ACHIEVEMENT	Use coordinate geometry methods.	1(a)	$7y = x + 23$ or $y = 0.143x + 3.29$	A	Or equivalent.	**ACHIEVEMENT:** **TWO A** (either **A** or **A**□□) *Replacement from Q3 to Q6 – need two different methods correct to gain achievement.*
		1(b)	$\sqrt{50}$ =7.07106…	A	Or equivalent.	
		2	(16,11)	A	Or equivalent.	
ACHIEVEMENT WITH MERIT	Solve problems involving coordinate geometry methods.	3	$m_1 = -\frac{5}{3}$ $\perp m_1 = \frac{3}{5}$	**A•**	Gradient and perpendicular concept.	**ACHIEVEMENT WITH MERIT:** **A**chievement plus **2 M** OR **A**chievement plus **1 M** and **1 A•** (from Q3 onwards) OR **3 M**
			$-\frac{5}{3}\times-\frac{4}{k}=-1$		Must show working.	
			$k = -\frac{20}{3}$ or $-6.\dot{6}$	M	Equivalent methods acceptable.	
		4	Grad of BC is 1 Eqtn BC $y = x + 3$	A		
			Perp $y - 5 = -1(x - 3)$ or $y = -x + 8$	**A**□	Both equations.	
			Solve intersection $-x + 8 = x + 3$		Must show working.	
			(2.5,5.5)	M	Equivalent methods acceptable.	

ACHIEVEMENT WITH EXCELLENCE	Solve extended problems involving coordinate geometry methods.	5	$25 + (y-2)^2 + 4 + (y-5)^2$ $= 58$ *pythagoras eqt* $2y^2 - 14y = 0$ $y = 0$, or 7 (1,0) or (1,7) ***Or gradient method*** $CA = \frac{y-2}{5}$ $BA = \frac{y-5}{-2}$ *Perp grad* $\frac{y-2}{5} = \frac{2}{y-5}$ $10 = y^2 - 7y + 10$ $0 = y(y-7)$ (1,0) (1,7)	**A·** M E **A•** M E	Both lengths Must have supporting working and a logical argument. Both gradients	**ACHIEVEMENT WITH EXCELLENCE:** **Merit** plus code **1 E** **OR** **2 M AND 2 E**
		6	Perp $m = -1$ Eqn perp line $y - 2 = -1(x - k)$ $y = -x + k + 2$ Intersection with $y = x + 4$ $x + 4 = -x + k + 2$ $x = \frac{k}{2} - 1 = \frac{k-2}{2}$ $y = \frac{k}{2} + 3 = \frac{k+6}{2}$ Perp dist with $(k,2)$ is 4 $(k+2)^2 + (k+2)^2 = 4 \times 16$ $k = 3.66$ or -7.66 $(k = -2 \pm \sqrt{32})$ OR ***formula*** *(k,2) x – y + 4 = 0* $\pm 4 = \frac{k + -2 + 4}{\sqrt{1+1}}$ $\pm 4 = \frac{k+2}{\sqrt{2}}$ $\pm 5.66 = k + 2$ *K = 3.66 or k = –7.66*	**A·** M E M E	Must have supporting working and a logical argument. Equivalent methods acceptable	

Judgement Statement – 2008

Achievement	Achievement with Merit	Achievement with Excellence
Use coordinate geometry methods. $2 \times$ A (either A or A•) – need two different methods correct to gain achievement.	Solve problems involving coordinate geometry methods. Achievement plus $2 \times$ M OR Achievement plus $1 \times$ M and 1 A (from Q3 onwards) OR $3 \times$ M	Solve extended problems involving coordinate geometry methods. Achievement with Merit plus $1 \times$ E OR $2 \times$ M and $2 \times$ 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.
- **A•** shows sufficient working at Merit level without giving the correct answer.