Assessment Schedule – 2008

Mathematics: Determine probabilities (90194)

Evidence Statement

	Achievement Criteria	No.	Evidence	Code	Judgement	Sufficiency
ACHIEVEMENT	Determine probabilities.	1(a)	$\frac{83}{174}$ or 0.4770 or 47.7%	A	Accept any equivalent fraction, decimal or percentage. Rounding will not be penalised.	**Achievement:** THREE of A
		1(b)	$\frac{10}{65}$ or 0.15385 or 15.4%	A		
		3(a)	$\frac{1}{16}$ or 0.0625 or 6.25%	A		
		4(a)	$0.55 \times 0.45 = 0.2475$ or 99/400	A	If 0.25 no working then N, With working A 0.25(2dp) A	

	Achievement Criteria	No.	Evidence		Judgement	Sufficiency
ACHIEVEMENT WITH MERIT	Solve probability problems using theoretical methods.	2	$\frac{1}{9}$ or 0.11 or 0.1	A, M	CAO M Or equivalent. Not 0.1or 10%	**Merit:** Achievement PLUS THREE M OR FOUR M
		3(b)	$\frac{6}{16}, \frac{3}{8}$ or 0.375 or 37.5%	A, M	CAO M	
		4(b)	$0.55\times0.3+0.45\times0.2$ $= 0.255$ or 51/200	A, M	CAO M Only 0.26 A	
		4(d)	P(16-year-old with colour vision problem) $= 0.1\times0.55\times0.25+$ $0.01\times0.45\times0.15$ $= 0.014425$ Expected number of 16-year-olds with colour vision problems $= 2500 \times 0.014425$ $= 36$	A, M	Answer accepted in terms of males and females also unrounded Some evidence of use of probability in working expected for grade i.e. CAO not acceptable	
ACHIEVEMENT WITH EXCELLENCE	Explore probability situations to solve problems	4(c)	Total numbers $198 \div (0.45 \times 0.2)$ $= 2200$ No. of males $= 2200 \times 0.55 \times 0.3$ $= 363$	A, M, E	Some evidence of use of probabilities expected for grade to be awarded ie CAO not acceptable Excellence will not be withheld for failure to sensibly round alone.	**Excellence:** Merit **plus** E

Judgement Statement – 2008

Achievement	Achievement with Merit	Achievement with Excellence
Determine probabilities. $3 \times$ A	Solve probability problems using theoretical methods. Achievement plus $3 \times$ M OR $4 \times$ M	Explore probability situations to solve problems Achievement with Merit plus $1 \times$ 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.