Assessment Schedule – 2005

Mathematics: Use coordinate geometry methods (90287)

Evidence Statement

SEARCH AND RESCUE

	Achievement Criteria	Q	Evidence	Code	Judgement	Sufficiency
Achievement	Use coordinate geometry methods.	1	$\sqrt{82}$	A	Or equivalent.	**Achievement:** 2 × code A. **Replacement Evidence:** Any part of Q4, 5 or 6 can replace Q1, 2, or 3. Can only use mid-point once.
		2	$y - 5 = -9(x - 2)$ $9x + y - 23 = 0$	A	Or equivalent.	
		3	$y - 7 = \frac{1}{4}(x + 1)$ $x - 4y + 29 = 0$	A	Or equivalent. Units not required anywhere in this activity.	
Achievement with Merit	Solve problems involving coordinate geometry methods.	4	Show the gradients are equal. $\frac{-4-2}{-7-5} = \frac{1}{2}$ $\frac{3-2}{7-5} = \frac{1}{2}$ Because the gradients are equal, the points are collinear.	M, A	Must have explanation. Other methods of solution possible.	**Achievement with Merit:** **EITHER** As for Achievement **plus** 2 × code M **OR** all of code M.
		5(a)	Mid-point (6,5) $m_{perp} = -3$	A	Or equivalent.	
		5(b)	$y - 5 = -3(x - 6)$ $y = -3x + 23$ Coordinates of lost child $(3,k)$ Distance (5,7) and $(3,k)$ $= \sqrt{20}$ so $(7-k)^2 + 2^2 = 20$ $(k - 11)(k - 3) = 0$ $k = 11, 3$; ignore $k = 3$ coordinates (3,11)	M, A M	Must give both ordinates.	**Replacement Evidence:** Two correct equations for medians in Q6 can replace either Q4, 5(a) or 5(b)
Achievement with Excellence	Solve extended problems involving coordinate geometry methods.	6	Find mid-point of: PQ = T (–1.5,4.5) PR = S (–5.5,6.5) QR = U (–2,7) Find the equations of RT $y = -x + 3$ and QS $5y + x - 27 = 0$ Point of intersection is: (–3,6)	M E	Must have supporting working and a logical argument.	**Achievement with Excellence:** As for Merit **plus** code E

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
Use coordinate geometry methods. 2 × A	Solve problems involving coordinate geometry methods. **Achievement** *plus* 2 × M *or* 3 × M	Solve extended problems involving coordinate geometry methods. **Merit** *plus* E