QUESTION 6.1

(a) $\frac{9-1}{0-(-4)}$ ***(M1)***

$=2$

(A1)(G2) ***[2 marks]***

Notes: Award ***(M1)*** for correct substitution into the gradient formula.

(b) -6 ***(A1)*** ***[1 mark]***

Note: Accept $(0, -6)$.

(c) $y = -\frac{1}{2}x - 1$ (or equivalent) ***(A1)*(ft)*(A1)***

Notes: Award ***(A1)*(ft)*** for gradient, ***(A1)*** for correct y-intercept.
Follow through from their gradient in (a).

$x + 2y + 2 = 0$ ***(A1)*(ft)***

Notes: Award ***(A1)*(ft)*** from their gradient and their y-intercept.
Accept any multiple of this equation with integer coefficients.

OR

$y - 1 = -\frac{1}{2}(x + 4)$ (or equivalent) ***(A1)*(ft)*(A1)***

Note: Award ***(A1)*(ft)*** for gradient, ***(A1)*** for any point on the line correctly substituted in equation.

$x + 2y + 2 = 0$ ***(A1)*(ft)*** ***[3 marks]***

Notes: Award ***(A1)*(ft)*** from their equation.
Accept any multiple of this equation with integer coefficients.

(d) $D(2, -2)$ **or** $x = 2,\ y = -2$ ***(A1)*** ***[1 mark]***

Note: Award ***(A0)*** if brackets not present.

(e) $R(6, 6)$ **or** $x = 6,\ y = 6$ ***(A1)(A1)*** ***[2 marks]***

Note: Award at most ***(A0)(A1)*(ft)*** if brackets not present and absence of brackets has not already been penalised in part (d).

continued…

Question 6.1 *continued*

(f) (i) $\text{DR} = \sqrt{8^2 + 4^2}$ ***(M1)***

$\text{DR} = \sqrt{80}$ (8.94) ***(A1)*****(ft)*****(G2)***

Note: Award ***(M1)*** for correct substitution into the distance formula. Follow through from their D and R.

(ii) $\text{Area} = \dfrac{\sqrt{80} \times \sqrt{45}}{2}$ ***(M1)***

$= 30$ (30.0) ***(A1)*****(ft)*****(G2)*** ***[4 marks]***

Note: Award ***(M1)*** for correct substitution in the area of triangle formula. Follow through from their answer to part (f) (i).

Total [13 marks]