



(6)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Solutions

1a.

$4x - y + 11 = 0$ $y = 4x + 11$	M1
$2x^2 + 6x + 7 = 4x + 11$	M1
$x^2 + x - 2 = 0$ $(x + 2)(x - 1) = 0$	M1
$x = -2$ $x = 1$	M1
$(-2, 3)$ and $(1, 15)$	

1b.

Area below curve, $\int_{-2}^1 (2x^2 + 6x + 7) dx$	M1
$= \left[\frac{2}{3}x^3 + 3x^2 + 7x \right]_{-2}^1$	M1
$= \left(\frac{2}{3} + 3 + 7 \right) - \left(-\frac{16}{3} + 12 - 14 \right)$	M1
$= 18$	M1
Area below line: $= \frac{1}{2} \times 3 \times (3 + 15)$ $= 27$	M1
Area between line and curve, $= 27 - 18$ $= 9$	M1

