

$$\text{iii) } 2 \log(5x+3) = \log(x+1) + \log(x+2)$$

$$\log(5x+3)^2 = \log(x+1)(x+2)$$

$$(5x+3)(5x+3) = (x+1)(x+2)$$

$$25x^2 + 15x + 15x + 9 = x^2 + 2x + x + 2$$

$$25x^2 + 30x + 9 = x^2 + 3x + 2$$

$$24x^2 + 27x + 7 = 0$$

a b c

$$x = (27) \pm \frac{\sqrt{(27)^2 - 4(24)(7)}}{2(24)}$$

$$x = (27) \pm \frac{\sqrt{(729) + (672)}}{48}$$

$$x = (27 \pm \sqrt{57})$$

48

$$x = \frac{27 + 7.55}{48}$$

$$= 0.72$$

$$x = \frac{27 - 7.55}{48}$$

$$= 0.41$$

~~$$\begin{array}{l} 27R^2 + 24R + 5 \\ (9R + 5)(3R + 1) \end{array}$$~~

~~$$81R^2 - 144R^2$$~~

c) $27R^2 + 24R + 5$
 $(9R + 5)(3R + 1)$