

$$c) (i) \cancel{21R^2 + 24R + 5}$$

$$21R + 8R - 3R + 5$$

$$(21R + 8)(R - 3)$$

$$21R^2$$

$$27R^2 + 24R + 5$$

$$(9R + 5)(3R + 1)$$

$$\text{check} = 27R^2 + 9R + 15R + 5$$

$$27R^2 + 24R + 5 \checkmark$$

$$(ii) 81Q^2 - 144U^2$$

$$9(3Q + 4U)(3Q - 4U)$$

$$\text{check} = (27Q + 36U)(3Q - 4U)$$

$$81Q^2 - 144U^2 \checkmark$$

$$(iii) tr - ty + ur - uy$$

$$(t + u)(r - y)$$

$$d) i) x^2 + 9x + 8 = 0 \quad 1 \times 8$$

$$(x + 8)(x + 1)$$

$$x^2 + x + 8x + 8$$

$$x^2 + 9x + 8 = 0 \checkmark$$

$x + 8 = 0$	$x + 1 = 0$
$x = -8$	$x = -1$

$$ii) 12x^2 - 5x - 3 = 0 \quad 1 \times 3$$

$$(4x - 3)(3x + 1)$$

$$12x^2 - 5x - 3 = 0$$

$4x - 3 = 0$	$3x + 1 = 0$
$x = \frac{3}{4}$	$x = -\frac{1}{3}$

$$(iii) 2x^2 + 17x = -30$$

$$2x^2 + 17x + 30 = 0$$

$$(2x + 5)(x + 6) = 0$$

$$2x + 5 = 0 \quad x + 6 = 0$$

$$x = -\frac{5}{2} \quad x = -6$$