

iv) $7^x \times 3^{x+2} = 5^{x-1}$

$\log 7^x \times \log 3^{x+2} = \log 5^{x-1}$

~~$x \log 7 + (x+2) \log 3 = x-1 \log 5$~~

$x \log 7 + (x+2) \log 3 = (x-1) \log 5$

$x(0.845) + x+2(0.4477) = x-1(0.699)$

$0.845x + 0.477x + 0.954 = -0.699 + 0.699x$

$0.623x = -1.653$

$x = \frac{-1.653}{0.623} = -2.653$

c)

i) $21R^2 + 24R + 5$

$(7R) (3R) (5)$

24
1 24
2 12
3 8
4 6

can't factor

ii) $81q^2 - 144u^2$

$9(9q^2 - 16u^2)$

$3^2 \cdot 9 \quad 4^2 \cdot 12$

$9(3q+4u)(3q-4u)$

iii) $tr - ty + ur - uy$

separate coefficient into one bracket

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

27
9 3
27 1

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

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

24
8 3
6 4