

$$iv) 4^x \times 3^{x+5} = 2^x$$
~~$$2^{2x} \times 3^{x+5} = 2^x$$~~
~~$$2^{2x} = 2^x$$~~

$$x \log 4 + (x+5) \log 3 = x \log 2$$

$$(x+5) \log 3 = \frac{x \log 2}{x \log 4}$$

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

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

~~xxxxxx~~

$$x = \frac{1}{2 \log 3} - 5$$

$$x = -3.9$$

c)

i

$$\frac{T^2 + 11T + 30}{(T+6)(T+5)}$$

ii)

$$\frac{4x^2 - 100y^2}{(2x)^2 - (10y)^2}$$

iii)

$$\frac{Tr - Ty + ur - uy}{(r+u)(r-y)}$$