

$$\text{ii) } \frac{(x-1)}{2} - \frac{5x}{4} = \frac{(x+2)}{2}$$

$$\text{C.P.} = 4$$

$$\frac{4(x-1)}{2} - \frac{4(5x)}{4} = \frac{4(x+2)}{2}$$

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

$$2x - 1 - 5x = 2x + 4$$

$$2x - 5x + 2x = 4 + 1$$

$$-1x = 5$$

$$-x = 5$$

$$\text{iii) } 2 \log(x+3) = \log(x+5) + \log(x+7)$$

3rd law

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

$$(x+3)^2 = (x+5)(x+7)$$

$$(x+3)(x+3) = (x+5)(x+7)$$

$$x^2 + 3x + 3x + 9 = x^2 + 7x + 5x + 35$$

$$6x + 9 = 12x + 35$$

$$6x - 12x = 35 - 9$$

$$-6x = 26$$

$$x = \frac{26}{-6}$$

$$x = -4.3$$