

$$1a) W = 1 + \frac{1}{V}$$

$$W = 0.5$$

$$\frac{1}{V} = W - 1$$

$$V = \frac{1}{0.5 - 1}$$

$$\cancel{V} \times \frac{1}{\cancel{V}} = V \frac{(W-1)}{\cancel{W-1}}$$

$$V = \frac{1}{-0.5}$$

$$1 = V \frac{(W-1)}{\cancel{W-1}}$$

$$\underline{\underline{V = -2.0}}$$

$$\frac{1}{W-1} = V$$

$$\underline{\underline{V = \frac{1}{(W-1)}}}$$

$$b.i) 3x + 5 = 7x - 7$$

$$3x - 7x = -7 - 5$$

$$-4x = -12$$

$$\frac{-4x}{-4} = \frac{-12}{-4}$$

$$\underline{\underline{x = 3}}$$

$$ii) \frac{x+3}{2} = \frac{x-3}{4}$$

$$4(x+3) = 2(x-3)$$

$$4x + 12 = 2x - 6$$

$$4x - 2x = -6 - 12$$

$$2x = -18$$

$$\frac{2x}{2} = \frac{-18}{2}$$

$$\underline{\underline{x = -9}}$$

$$iii) \frac{1}{x-1} = \frac{5}{2}$$

$$\frac{2}{1} \left(\frac{1}{x-1} \right) = \frac{5}{2} \times 2$$

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

$$\cancel{(x-1)} \times \frac{2}{\cancel{(x-1)}} = 5(x-1)$$

$$= 2 = 5x - 5$$

$$= 2 + 5 = 5x$$

$$= 7 = 5x$$

$$\frac{7}{5} = \frac{5x}{5}$$

$$\underline{\underline{x = \frac{7}{5}}}$$