

4)

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

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

$$\frac{2(x+4) - 2(x+2)}{\cancel{2(x+2)}(x+4)} = \frac{x+4}{\cancel{2(x+2)}(x+4)} \quad x \neq -2, x \neq -4$$

$$\cancel{2x} + 8 - \cancel{2x} - 4 = x + 4$$

$$-x = 0$$

$$x = 0 \quad \text{acc.}$$