

$$I = 49x^2 + 28x + 4 - (1-4x)(7x+2)$$

$$\begin{aligned} 1) \quad I &= 49x^2 + 28x + 4 - (7x + 2 - 28x^2 - 8x) \\ &= 49x^2 + 28x + 4 - (-28x^2 - x + 2) \\ &= 49x^2 + 28x + 4 + 28x^2 + x - 2 \\ &= \underline{\underline{77x^2 + 29x + 2}} \end{aligned}$$

$$2) \quad a) \quad 49x^2 + 28x + 4 = (7x)^2 + 2 \times 7x \times 2 + 2^2 = \underline{\underline{(7x+2)^2}}$$

$$\begin{aligned} b) \quad I &= 49x^2 + 28x + 4 - (1-4x)(7x+2) \\ &= (7x+2)^2 - (1-4x)(7x+2) \\ &= (7x+2) [(7x+2) - (1-4x)] = (7x+2)(7x+2-1+4x) \\ &= \underline{\underline{(7x+2)(11x+1)}} \end{aligned}$$

$$3) \quad I = (7x+2)(11x+1)$$

$$\begin{aligned} \text{at } x = -2/7, \quad I &= (7x(-2/7) + 2)(11x(-2/7) + 1) \\ &= 0 + \left(-\frac{22}{7} + 1\right) = \underline{\underline{0}} \end{aligned}$$