1. $p(x) = 1043 \cdot l_0(3750) + 747 \cdot l_1(3750) + 540 \cdot l_2(3750) + 226 \cdot l_3(3750)$

$$l_0(3750) = \frac{(x-x_1)(x-x_2)(x-x_3)}{(x_0-x_1)(x_0-x_2)(x_0-x_3)} = \frac{(3750-2500)(3750-5000)(3750-10'000)}{(0-2500)(0-5000)(0-10'000)} = -\frac{5}{64}$$

$$l_1(3750) = \frac{(x-x_0)(x-x_2)(x-x_3)}{(x_1-x_0)(x_1-x_2)(x_1-x_3)} = \frac{(3750-0)(3750-5000)(3750-10'000)}{(2500-0)(2500-5000)(2500-10'000)} = \frac{5}{8}$$

$$l_2(3750) = \frac{(x-x_0)(x-x_1)(x-x_3)}{(x_2-x_0)(x_2-x_1)(x_2-x_3)} = \frac{(3750-0)(3750-2500)(3750-10'000)}{(5000-0)(5000-2500)(5000-10'000)} = \frac{15}{32}$$

$$l_3(3750) = \frac{(x-x_0)(x-x_1)(x-x_2)}{(x_3-x_0)(x_3-x_1)(x_3-x_2)} = \frac{(3750-0)(3750-2500)(3750-5000)}{(10'000-0)(10'000-2500)(10'000-5000)} = -\frac{1}{64}$$

$$p(x) = 1043 \cdot -\frac{5}{64} + 747 \cdot \frac{5}{8} + 540 \cdot \frac{15}{32} + 226 \cdot -\frac{1}{64} = \frac{40'789}{64} \approx 637,328$$