1 DO NOT USE A CALCULATOR IN THIS QUESTION.

Write $\dfrac{4-\sqrt{5}}{7-3\sqrt{5}}$ with a rational denominator, simplifying your answer. [3]

2 Given that $y = 2(7^{2x}) - 3(7^{x+1}) + 19$, find the value of x when $y = 30$. [4]