1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. A sequence is defined by $a_1 = 0$, $a_2 = 4$, and $a_n = 4(a_{n-1} - a_{n-2})$ for $n > 2$. What is the greatest value of n such that $n < 100$ and a_n is a power of 2?

10. Find the sum of all real solutions to the equation

$$\sqrt{6 - x} = 6 - x^2.$$

Express your answer as a common fraction in simplest radical form.