

Assignment 1 - Question 1.1

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1 Question 1.1

$$3^{1500} \pmod{11}$$

2 Solution

We know that $3^5 = 243 = 22 \times 11 + 1$. Therefore, $3^5 \pmod{11} = 1$. We can rewrite 3^{1500} as $(3^5)^{300}$. Therefore, $3^{1500} \pmod{11} = 1^{300} = 1$.