

Name:

Problem 1: It is a fact that

$$2^1 \equiv 2 \pmod{4}, \quad 2^2 \equiv 4 \pmod{5}, \quad 2^3 \equiv 3 \pmod{5}, \quad 2^4 \equiv 1 \pmod{5}.$$

What is the index of 4 relative to 2?

For a maximum of two points you may give the definition of the index of a relative to r .