- **may or may not function**
- bijective mapping
- Cartesian product set

The statement $p \leftrightarrow q = (p \rightarrow q) \wedge (q \rightarrow p)$ describes

- Commutative Law
- Implication Laws
- Exportation Law
- **Equivalence**

Given $f(x) = x^3 - 2x^2 + 4x - 1$ *then the value of* $f(1-x)$ *is*

- $\frac{1}{x^3} - \frac{2}{x^2} + \frac{4}{x} - 1$
- $-x^3 + x^2 - 3x + 2$
- Zero
- $2 + x^2 - x^3$

$$f(1-x) = (1-x)^3 - 2(1-x)^2 + 4(1-x) - 1$$
$$= 1 - x^3 + 3x^2 - 3x - 2(1 + x^2 - 2x) + 4 - 4x - 1$$
$$= \cancel{1} - x^3 + 3x^2 - 3x - 2 - 2x^2 + \cancel{4x} + 4 \cancel{-4x} \cancel{-1}$$
$$= -x^3 + 3x^2 - 2x^2 - 3x - 2 + 4$$
$$= -x^3 + x^2 - 3x + 2$$

The square root of every prime number is irrational

- **True**
- False
- Depends on the prime number given

A predicate is a sentence that contains a finite number of variables and becomes a statement when specific values are substituted for the variables

- **True (Page 202)**
- False
- None of these

If r is a positive integer then gcd(r,0)=

- r
- 0
- 1
- None of these

Associative law of union for three sets is