

## Functions Quiz PDF

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**Which of the following functions is bijective?**

- $f(x) = x^2$
- $f(x) = 2x + 3$
- $f(x) = \sin(x)$
- $f(x) = e^x$

**What type of function is  $f(x) = ax^2 + bx + c$ ?**

- Linear
- Quadratic
- Exponential
- Logarithmic

**Which of the following functions are injectively? (Select all that apply)**

- $f(x) = x^3$
- $f(x) = x^2$
- $f(x) = 2x + 1$
- $f(x) = \sin(x)$

**What is the primary characteristic of a function in mathematics?**

- It relates multiple outputs to a single input.
- It relates each input to exactly one output.
- It can have multiple inputs for a single output.
- It does not have a defined domain.

**Which of the following is a linear function?**

- $f(x) = x^2 + 3x + 2$
- $f(x) = 3x + 5$

- $f(x) = 2^x$
- $f(x) = \log(x)$

**Which test can be used to determine if a graph represents a function?**

- Horizontal Line Test
- Diagonal Line Test
- Vertical Line Test
- Parallel Line Test

**Which of the following is not a trigonometric function?**

- Sine
- Cosine
- Tangent
- Logarithm

**Which of the following are properties of a function? (Select all that apply)**

- Domain
- Range
- Codomain
- Multiplicity

**What is the range of the function  $f(x) = e^x$ ?**

- All real numbers
- All positive real numbers
- All non-negative real numbers
- All integers

**What are the applications of functions in real-world scenarios? (Select all that apply)**

- Modeling population growth
- Designing algorithms
- Solving linear equations
- Analyzing financial trends

**Which functions are considered polynomial functions? (Select all that apply)**

- $f(x) = 3x^2 + 2x + 1$
- $f(x) = 5x^3 - 4x + 7$
- $f(x) = \log(x)$
- $f(x) = 2^x$

**What is the domain of the function  $f(x) = \sqrt{x}$ ?**

- All real numbers
- All positive real numbers
- All non-negative real numbers
- All integers

**Which of the following are examples of exponential functions? (Select all that apply)**

- $f(x) = 3^x$
- $f(x) = x^3$
- $f(x) = e^x$
- $f(x) = \log(x)$

**What are the characteristics of a quadratic function? (Select all that apply)**

- It has a degree of 2.
- Its graph is a parabola.
- It is always increasing.
- It can have two, one, or no real roots.