

Functions Quiz Answer Key PDF

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Which of the following functions is bijective?

- A. $f(x) = x^2$
- B. $f(x) = 2x + 3$ ✓**
- C. $f(x) = \sin(x)$
- D. $f(x) = e^x$

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

- A. Linear
- B. Quadratic ✓**
- C. Exponential
- D. Logarithmic

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

- A. $f(x) = x^3$ ✓**
- B. $f(x) = x^2$
- C. $f(x) = 2x + 1$ ✓**
- D. $f(x) = \sin(x)$

What is the primary characteristic of a function in mathematics?

- A. It relates multiple outputs to a single input.
- B. It relates each input to exactly one output. ✓**
- C. It can have multiple inputs for a single output.
- D. It does not have a defined domain.

Which of the following is a linear function?

- A. $f(x) = x^2 + 3x + 2$
- B. $f(x) = 3x + 5$ ✓**
- C. $f(x) = 2^x$
- D. $f(x) = \log(x)$

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

- A. Horizontal Line Test
- B. Diagonal Line Test
- C. Vertical Line Test ✓**
- D. Parallel Line Test

Which of the following is not a trigonometric function?

- A. Sine
- B. Cosine
- C. Tangent
- D. Logarithm ✓**

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

- A. Domain ✓**
- B. Range ✓**
- C. Codomain ✓**
- D. Multiplicity

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

- A. All real numbers
- B. All positive real numbers ✓**
- C. All non-negative real numbers
- D. All integers

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

- A. Modeling population growth ✓**
- B. Designing algorithms ✓**

C. Solving linear equations

D. Analyzing financial trends ✓

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

A. $f(x) = 3x^2 + 2x + 1$ ✓

B. $f(x) = 5x^3 - 4x + 7$ ✓

C. $f(x) = \log(x)$

D. $f(x) = 2^x$

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

A. All real numbers

B. All positive real numbers

C. All non-negative real numbers ✓

D. All integers

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

A. $f(x) = 3^x$ ✓

B. $f(x) = x^3$

C. $f(x) = e^x$ ✓

D. $f(x) = \log(x)$

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

A. It has a degree of 2. ✓

B. Its graph is a parabola. ✓

C. It is always increasing.

D. It can have two, one, or no real roots. ✓