



SAT Math Practice

Topic: Functions

Instructions

Solve the following problems related to functions, evaluating, and finding domain and range. Show all work clearly. For multiple-choice questions, circle the correct answer. For grid-in questions, fill in the grid with your answer.

Practice Problems

1. Given the function $f(x) = 2x + 5$, evaluate $f(3)$.

- (a) 11
- (b) 6
- (c) 7
- (d) 9

2. Given the function $g(x) = x^2 - 4x$, find $g(2)$.

- (a) 4
- (b) 0
- (c) -4
- (d) 8

3. Given the function $f(x) = 3x - 2$, find $f(-1)$.
- (a) -5
 - (b) 5
 - (c) 1
 - (d) 0
4. For the function $h(x) = \frac{1}{x-2}$, determine the domain of $h(x)$.
- (a) All real numbers except $x = 2$
 - (b) All real numbers
 - (c) $x > 2$
 - (d) $x \leq 2$
5. Given the function $f(x) = \sqrt{x+3}$, find the domain of $f(x)$.
- (a) $x \geq -3$
 - (b) $x > -3$
 - (c) $x \geq 0$
 - (d) $x > 0$
6. Given the function $g(x) = x^3 - x$, evaluate $g(1)$.
- (a) 0
 - (b) 1
 - (c) -1
 - (d) 2
7. For the function $f(x) = x^2 - 4$, find the range of $f(x)$.
- (a) All real numbers greater than or equal to -4
 - (b) All real numbers greater than 4
 - (c) All real numbers less than or equal to -4
 - (d) All real numbers
8. Given the function $f(x) = x^2 + 2x + 1$, evaluate $f(-3)$.
- (a) 7
 - (b) 9
 - (c) 16

(d) 0

9. Given the function $f(x) = \frac{2x}{x^2-1}$, find the domain of $f(x)$.

(a) $x \neq 1$ and $x \neq -1$

(b) All real numbers except $x = 1$

(c) $x \geq 1$

(d) $x > 1$

10. Solve for x in the equation $f(x) = 4x + 3 = 19$.

(a) $x = 4$

(b) $x = 3$

(c) $x = 5$

(d) $x = 2$

11. If $f(x) = 3x^2 + 2$, find the range of $f(x)$.

(a) $y \geq 2$

(b) $y > 2$

(c) All real numbers

(d) $y \leq 2$

12. Given the function $h(x) = \frac{1}{x+1}$, find the range of $h(x)$.

(a) All real numbers except 0

(b) All real numbers

(c) $x \neq -1$

(d) $x > 0$

13. Solve for y : $y = 2x + 5$, if $x = 3$.

(a) 11

(b) 12

(c) 13

(d) 14

14. Find the domain of $f(x) = \frac{1}{x+4}$.

- (a) $x \neq -4$
- (b) $x \geq 0$
- (c) All real numbers except 0
- (d) All real numbers

15. Solve for x in $f(x) = x^2 - 2x + 5$, if $f(x) = 10$.
(Grid-in Question: Answer in the grid as a number.)

16. Find the range of $f(x) = x^2 - 1$ given $x \geq 0$.
(Grid-in Question: Answer in the grid as a number.)

Answer Key

- 1. (a) 11
- 2. (b) 0
- 3. (a) -5
- 4. (a) All real numbers except $x = 2$
- 5. (a) $x \geq -3$
- 6. (b) 3
- 7. (a) All real numbers greater than or equal to -4
- 8. (b) 9
- 9. (a) $x \neq 1$ and $x \neq -1$
- 10. (a) $x = 4$
- 11. (a) $y \geq 2$
- 12. (b) All real numbers except 0
- 13. (a) 11
- 14. (a) $x \neq -4$
- 15. (7) $x = 2$ (Grid-in answer)
- 16. (4) $y = 5$ (Grid-in answer)