Worksheet 4: Linear Functions

Name: _____ Date: _____

Instructions

- Read each question carefully
- Choose the best answer
- Circle the letter of your choice
- Only one answer per question

1. What is the general form of a linear function?

A) $f(x) = ax^2 + bx + c$

B) $f(x) = mx + b$

C) f(x) = a^x

D) $f(x) = \sqrt{x}$

2. In the equation f(x) = 3x + 2, what is the slope?

A) 3

B) 2

C) x

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D) 5

3. In the equation f(x) = 3x + 2, what is the y-intercept?

A) 3

B) 2

C) x

D) 0

4. What does the slope of a linear function represent?

A) Where the line crosses the y-axis

B) The rate of change

C) The highest point

D) The x-intercept

5. A linear function with slope = 0 creates what type of line?

A) Vertical line

B) Horizontal line

C) Diagonal line going up

D) Diagonal line going down

6. Which equation represents a linear function with slope -2 and y-intercept 4?

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A) f(x) = -2x + 4

B) f(x) = 4x - 2

C) f(x) = 2x + 4

D) f(x) = -4x + 2

7. If f(x) = -x + 1, what happens to y as x increases?

A) y increases

B) y decreases

C) y stays the same

D) y becomes zero

8. What is the rate of change for f(x) = 5x - 3?

A) -3

B) 5

C) x

D) 2

9. Which function has the steepest slope?

A) f(x) = 2x + 1

B) f(x) = 5x + 1

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C) $f(x) = x + 1$

D) $f(x) = 0.5x + 1$

10. If a phone plan costs $30 plus $0.05 per minute, which function represents the total cost?

A) $f(x) = 30x + 0.05$

B) $f(x) = 0.05x + 30$

C) $f(x) = 30x + 5$

D) $f(x) = 30 + 5x$

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