ALBERT

Name _____ Date _____

Function Notation Worksheet

Algebra 1 · Common Core HSF-IF.A.2

> Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Practice

Builds the skill step by step.

1. $f(x) = 3x - 4$. What is $f(2)$?

2. $g(x) = x^2 + 1$. What is $g(-3)$?

3. $h(t) = -5t + 20$. What is $h(4)$?

4. $f(x) = 2x + 5$. For what value of a is $f(a) = 17$?

5. $C(n) = 12n + 30$ is the cost in dollars of n tickets with a booking fee. What is $C(5)$?

6. For $C(n) = 12n + 30$ (dollars for n tickets), what does $C(5) = 90$ mean?

   A. 5 tickets cost 90 dollars.

   B. 90 tickets cost 5 dollars.

   C. Each ticket costs 90 dollars.

   D. The fee is 5 dollars.

7. $f(x) = x \div 2 + 1$. What is $f(10)$?

8. $f(x) = 7 - 2x$. What is $f(0)$?

9. $f(x) = x^2 - x$. What is $f(4)$?

10. $h(t)$ is a kite's height in feet t seconds after launch. What does $h(3) = 40$ mean?

    A. It flies for 3 minutes.

    B. After 40 seconds, it is 3 feet high.

    C. After 3 seconds, the kite is 40 feet high.

    D. It rises 40 feet per second.

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On Level

Grade-level practice.

1. $f(x) = 2x - 1$. What is $f(3) + f(-1)$?

2. $f(x) = x^2$. What is $f(a + 1)$ when $a = 2$?

3. $g(x) = 4x + 1$. For what x is $g(x) = 21$?

4. $P(t) = 500 + 25t$ is the dollars in an account after t weeks. After how many weeks is $P(t) = 800$?

5. $f(x) = 3x$ and $g(x) = x + 4$. What is $f(g(2))$?

6. $T(m) = 72 - 2m$ gives a drink's temperature in degrees m minutes after it is put in a cooler. Explain what $T(10) = 52$ means.

7. $f(x) = x^2 - 4$. For what values of x is f(x) = 0? List them from least to greatest.

8. The table defines f. What is f(4) − f(2)?

x	1	2	3	4
f(x)	3	6	11	18

9. What does f(2) = f(5) tell you?

   A. f is not a function.

   B. The function has the same output at x = 2 and x = 5.

   C. The graph is a line.

   D. 2 = 5.

10. d(t) = 60t is the miles a train travels in t hours. What is d(2.5)?

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Challenge

Multi-step and word problems that stretch it.

1. $f(x) = 2x + 3$. What is $f(f(1))$?

2. $f(x) = x^2 - 3x$. What is $f(-2)$?

3. $f(x) = ax + 5$ and $f(2) = 11$. What is a?

4. $h(t) = -16t^2 + 48t$ is a ball's height in feet. At what times is $h(t) = 32$? List them from least to greatest.

5. $C(m) = 0.25m + 40$ is the cost in dollars to rent a van and drive m miles. For what m is $C(m) = 90$?

6. $f(x) = x^2$. What is $f(1 + 2) - (f(1) + 2)$?

7. $P(t) = 1000 \cdot 2^t$ is a bacteria count after t hours. What is $P(3)$?

8. N(t) is the number of visitors to a museum's new exhibit t days after it opens. Explain what N(20) = 350 means.

9. f(x) = |x − 3|. For what values of x is f(x) = 5? List them from least to greatest.

10. f(x) = 1 ÷ x. What is $f(\frac{1}{4})$?