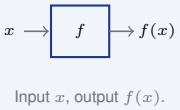
Function Notation

Name: _____	Date: _____	Score: _____ / 18

Quick Review and Helpful Hints

$f(x)$ means "the value of the function f at x." To *evaluate*, substitute the given number everywhere you see x and simplify. To *solve* $f(x) = k$, set the rule equal to k and solve for x. The letter (like f, g, h) is just a name.

▷ **Example:** Given $f(x) = 4x - 9$, find $f(5)$. **Work:** Substitute 5 for x: $f(5) = 4(5) - 9 = 20 - 9$. ★ **Answer:** 11



Input x, output $f(x)$.

Practice Problems

Evaluate or solve as directed.

1. $f(x) = 4x - 9;\ f(5) =$ _____
2. $g(x) = x^2 + 2;\ g(-3) =$ _____
3. $h(x) = -2x + 7;\ h(0) =$ _____
4. $f(x) = 3x^2 - x;\ f(2) =$ _____
5. $p(x) = \dfrac{x+6}{2};\ p(8) =$ _____
6. $g(x) = 7 - 3x;\ g(-4) =$ _____
7. $f(x) = 2x + 5;\ f(x) = 17,\ x =$ _____
8. $g(x) = x^2 - 1;\ g(x) = 24,\ x =$ _____
9. $h(x) = -x + 10;\ h(x) = 3,\ x =$ _____
10. $f(x) = 6x;\ f(x) = 42,\ x =$ _____
11. $f(x) = x^2 + 3x;\ f(-2) =$ _____
12. $g(x) = |x - 4|;\ g(1) =$ _____
13. $f(x) = 5x + 1;\ f(3) =$ _____
14. $f(x) = 2x - 3;\ f(x) = 9,\ x =$ _____

Word Problems

15. A function gives cost $C(x) = 3x + 5$ for x items. Find $C(4)$. _____
16. $f(x) = 2x + 1$ models a pattern. For what x is $f(x) = 15$? _____
17. A ball's height is $h(t) = 20 - 5t$ meters after t seconds. Find $h(2)$. _____
18. Given $g(x) = x^2$, find $g(6)$. _____

Answer Keys

1. $\boxed{11}$	**7.** $\boxed{6}$	**13.** $\boxed{16}$
2. $\boxed{11}$	**8.** $\boxed{x = \pm 5}$	**14.** $\boxed{6}$
3. $\boxed{7}$	**9.** $\boxed{7}$	**15.** $\boxed{17}$
4. $\boxed{10}$	**10.** $\boxed{7}$	**16.** $\boxed{7}$
5. $\boxed{7}$	**11.** $\boxed{-2}$	**17.** $\boxed{10}$
6. $\boxed{19}$	**12.** $\boxed{3}$	**18.** $\boxed{36}$

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 5: $4(5) - 9 = 20 - 9 = 11$. So the final answer is 11.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute -3: $(-3)^2 + 2 = 9 + 2 = 11$. So the final answer is 11.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 0: $-2(0) + 7 = 7$. So the final answer is 7.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 2: $3(2)^2 - 2 = 3(4) - 2 = 12 - 2 = 10$. So the final answer is 10.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 8: $\frac{8+6}{2} = \frac{14}{2} = 7$. So the final answer is 7.

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute -4: $7 - 3(-4) = 7 + 12 = 19$. So the final answer is 19.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $2x + 5 = 17$. Subtract 5: $2x = 12$, so $x = 6$. So the final answer is 6.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $x^2 - 1 = 24$, so $x^2 = 25$ and $x = \pm 5$. So the final answer is $x = \pm 5$.

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $-x + 10 = 3$. Then $-x = -7$, so $x = 7$. So the final answer is 7.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $6x = 42$. Divide by 6: $x = 7$. So the final answer is 7.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute -2: $(-2)^2 + 3(-2) = 4 - 6 = -2$. So the final answer is -2.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 1: $|1 - 4| = |-3| = 3$. So the final answer is 3.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 3: $5(3) + 1 = 15 + 1 = 16$. So the final answer is 16.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $2x - 3 = 9$. Add 3: $2x = 12$, so $x = 6$. So the final answer is 6.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 4: $C(4) = 3(4) + 5 = 12 + 5 = 17$. So the final answer is 17.

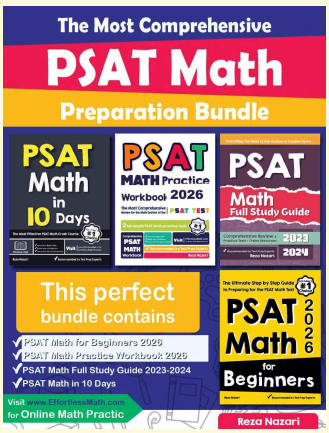
16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Set $2x + 1 = 15$. Subtract 1: $2x = 14$, so $x = 7$. So the final answer is 7.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 2: $20 - 5(2) = 20 - 10 = 10$ meters. So the final answer is 10.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Substitute 6: $6^2 = 36$. So the final answer is 36.

Keep Building PSAT 10 Math Skills

Recommended Effortless Math resources



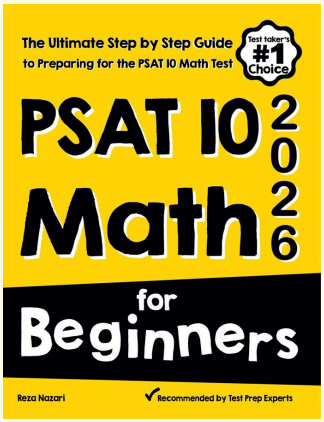
PSAT 10 Math Practice Workbook 2026

Use the complete PSAT 10 Math resource for review, worked examples, extra practice, and test-style questions after each worksheet.

Scan Me

Download Instantly

STUDENT FAVORITE - PSAT 10 Math for Beginners



PSAT 10 Math for Beginners 2026

Step-by-step lessons, topic practice, and full review support for students who want a calm path through PSAT 10 Math preparation.

A strong companion for self-study, tutoring, homework, and targeted review.

PDF Edition

Scan Me

Download Instantly

For more PSAT 10 Math prep, visit EffortlessMath.com/PSAT-10