

Inverse Functions

Find inverse functions algebraically

1. Which is the correct notation for the inverse of $h(x)$?

a) $h^{-1}(x) =$ ✓

b) $y =$

c) $h_i(x) =$

d) h inverse of x

2. Which function is the inverse of the function to the left?

$$f(x) = \frac{1}{2}x - 3$$

a) $f^{-1}(x) = 2x - 6$

b) $f^{-1}(x) = 2x - 3$

c) $f^{-1}(x) = 2x + 6$ ✓

d) $f^{-1}(x) = 2x + 3$

3. Identify the inverse of the given function. $f(x) = x + 4$

a) $y = x - 4$ ✓

b) $y = x + 4$

c) $y = x$

d) $y = -x - 4$

4. What is the inverse of $y = 2x + 6$

a) $y = 1/2x - 3$ ✓

b) $y = 2x + 6$

c) $y = 1/2x - 4$

5. What is the inverse operation of subtraction?

a) multiplication

b) subtraction

c) addition ✓

d) division

6. What is the inverse operation of addition?

a) Division

b) Multiplication

c) Subtraction ✓

d) There is no inverse operation of addition

7. The inverse operation of addition is division.

a) True

b) False ✓

8. The inverse operation of division is...

- a) addition
- b) division
- c) subtraction
- d) multiplication ✓**

9. What is the inverse operation of multiplication?

- a) addition
- b) subtraction
- c) multiplication
- d) division ✓**

10. Which of the following is the inverse function of $y = 3x + 1$?

- a) $y = (x/2)^5$
- b) $y = 2^x - 7$
- c) $y = (x - 1)/3$ ✓**
- d) Inverse of the given function,

11. What is the inverse of $y = x - 2$

- a) $y = x + 2$ ✓**
- b) $y = 2x^3$
- c) $y = \sqrt{x} - 2$
- d) $y = \sqrt{1/2x}$

12. What is the inverse of $f(x) = 3x$

- a) $f^{-1}(x) = x/3$ ✓**
- b) $f^{-1}(x) = 3x$
- c) $f^{-1}(x) = x - 3$
- d) $f^{-1}(x) = x + 3$

13. What is the inverse of $y = 2x + 6$

- a) $y = 2x + 6$
- b) $y = 1/2x - 3$ ✓**
- c) $y = -2x - 6$
- d) $y = 1/2x - 4$

14. Inverse of $y = -5x + 10$

- a) $y = 1/5x - 2$
- b) $y = -1/5x + 2$ ✓**
- c) $y = -5x + 10$
- d) $y = 5x + 2$

15. Inverse of $y = 1/3x - 8$

- a) $y = 1/3x + 24$
- b) $y = 1/3x + 8$
- c) $y = 3x - 8$
- d) $y = 3x + 24$ ✓**

16. Inverse of $y = 2/3x - 6$

- a) $y = 3/2x - 6$
- b) $y = -2/3x + 9$
- c) $y = 3/2x + 9$ ✓**
- d) $y = 2/3x - 12$

17. Inverse of $y+5=2(x-1)$

a) $y+2=2x(x+5)$

b) $y+5=1/2(x-1)$

c) $y+2=1/5(x-1)$

d) $y-1=1/2(x+5)$ ✓

18. Inverse of $y=2x+4$

a) $y=2x-4$

b) $y=1/2x-4$

c) $y=2x-2$

d) $y=1/2x-2$ ✓

19. Find the inverse if $f(x) = 2x - 3$

a) $f^{-1}(x) = \frac{x+3}{2}$ ✓

b) $f^{-1}(x) = x + 3$

c) Answer is not a choice

d) $f^{-1}(x) = -2x + 3$

20. Find the inverse if $g(x) = 3/4x - 5$

a) $f^{-1}(x) = \frac{4x+20}{3}$ ✓

b) $f^{-1}(x) = -\frac{3}{4}x + 5$

c) $f^{-1}(x) = \frac{4}{3}x + 20$

d) $f^{-1}(x) = 4x + 20$

21. Find the inverse of the given function.

$f(x) = 12x - 15$

a) $f^{-1}(x) = \frac{x+12}{15}$

b) $f^{-1}(x) = 12(x+15)$

c) $f^{-1}(x) = -12x + 15$

d) $f^{-1}(x) = \frac{x+15}{12}$ ✓

22. Find the inverse of the given function.

$f(x) = \frac{4x-1}{3}$

a) $f^{-1}(x) = \frac{3}{4}x + 1$

b) $f^{-1}(x) = \frac{-4x+1}{3}$

c) $f^{-1}(x) = \frac{3}{4x-1}$

d) $f^{-1}(x) = \frac{3x+1}{4}$ ✓

23. Find the inverse of the given function.

$$f(x) = x^3 - 9$$

a) $f^{-1}(x) = \sqrt[3]{x} + 9$

b) $f^{-1}(x) = \sqrt[3]{x - 9}$

c) $f^{-1}(x) = \sqrt[3]{x} - 9$

d) $f^{-1}(x) = \sqrt[3]{x + 9}$ ✓

24. Find the inverse of the given function.

$$f^{-1}(x) = (x - 4)^2 + 1$$

a) $f^{-1}(x) = \pm\sqrt{x + 1} - 4$

b) $f^{-1}(x) = \pm\sqrt{x - 4} + 1$

c) $f^{-1}(x) = \pm\sqrt{x + 3}$

d) $f^{-1}(x) = \pm\sqrt{x - 1} + 4$ ✓