

Name _____

Date _____

Class _____

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

b) $y = 2x + 6$

c) $y = \frac{1}{2}x - 4$

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) $y = \sqrt{(1/2)x}$

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