

5-6 Day 2 WS

1. The function f has domain $x \geq 3$ and range $y \leq -1$.

What are the domain and range of f^{-1} ?

2. The volume of a cube is 2.4 m^3 . Find the length of its edge.

3. Let $f(x) = \sqrt{x}$ and $g(x) = x - 5$.

a. Find $f(g(x))$

b. Find the domain of $f \circ g$

4. Find $f^{-1}(x)$ if $f(x) = 9 - 4x$

5. Let F be the function defined in the table:

| | | | | |
|-----|---|---|----|---|
| x | 4 | 3 | -1 | 5 |
| y | 7 | 2 | 9 | 7 |

Will the inverse of F also be a function?

6. Some values of $g(x)$ are given in the table:

| | | | | |
|-----|---|----|---|---|
| x | 9 | 6 | 2 | 1 |
| y | 8 | -3 | 0 | 5 |

$$g(1) =$$

$$g^{-1}(8) =$$

7. A cylindrical can is 6 inches tall. Find its diameter to the nearest tenth of an inch if its volume is 977.16 in^3

8. Let $f(x) = \sqrt{x-4}$

Determine if each statement is true or false.

$$f(8) = 2$$

$$f^{-1}(2) = 8$$

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

$$f(3) = 1$$

$$f \circ f^{-1}(9) = 9$$