



Exercise set (0.1)

Exercise set 0.1:

1 from quick check exercises p.11

3, 4, 7, 8 (a), 9 (a,b,c), 10 (b, d, e), (15, 16, 17, 18 without the part of determining a formula for y in term of x) 19, 20, 21, 22 p.12-13.

1. Let $f(x) = \sqrt{x+1} + 4$.

(a) The natural domain of f is _____.

(b) $f(3) =$ _____

(c) $f(t^2 - 1) =$ _____

(d) $f(x) = 7$ if $x =$ _____

(e) The range of f is _____.

a)

b) $f(3) =$

=

c) $f(t^2 - 1) =$

=

d) $f(x) = 7$ if $x =$

e) The range of is

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

$$(c) \ g(x) = \sqrt{x^2 - 3}$$

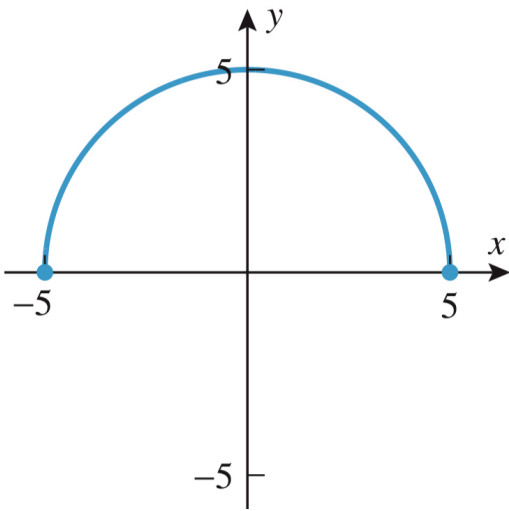
$$d) G(x) = x^3 + 2$$

$$e) h(x) = 3 \sin x$$

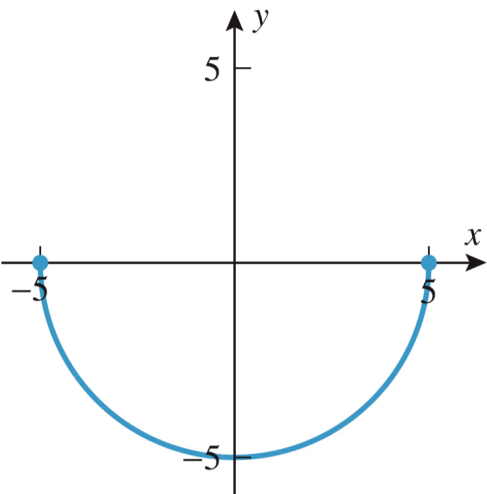
Domain:

15–18 As seen in Example 3, the equation $x^2 + y^2 = 25$ does not define y as a function of x . Each graph in these exercises is a portion of the circle $x^2 + y^2 = 25$. In each case, determine whether the graph defines y as a function of x , and if so, give a formula for y in terms of x . ■

15.



16.



19–22 True–False Determine whether the statement is true or false. Explain your answer. ■

19. A curve that crosses the x -axis at two different points cannot be the graph of a function.

20. The natural domain of a real-valued function defined by a formula consists of all those real numbers for which the formula yields a real value.

21. The range of the absolute value function is all positive real numbers.

22. If $g(x) = 1/\sqrt{f(x)}$, then the domain of g consists of all those real numbers x for which $f(x) \neq 0$.

