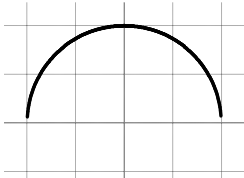


2.1 Application and Extension

1) Does this graph represent a function?



Function

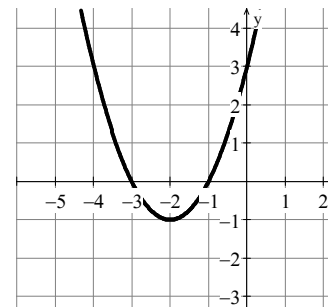
2) Use the graph to approximate the following values.

a. $f(-4) = 3$

b. $f(0) = 3$

c. If $f(x) = -1$, then $x = -2$

d. If $f(x) = 0$, then the possible value(s) of x are: $-3, -1$



For 3-4, determine whether each of the situations describes a function. Give a reason for your answer.

3) The letter grade in this course is a function of your numerical grade.

This is a function because when I earn a number grade, the teacher only has one choice for the letter grade.

4) The numerical grade in this course is a function of the letter grade.

This is not a function. The letter grade you earn does not determine your numerical grade. (Also, the letter grade has more than one choice for the numerical grade)

For 5-7, fill in the table to the right. Let x represent the elevation in feet and $s(x)$ represent the daily average amount of snowfall (in inches) during the month of February.

5) Determine $s(4000)$. What does it mean?

$s(4000) = 9.453$ At 4000 feet elevation, the daily snowfall in February is 9.453 inches

6) Determine $s(5200)$. What does it mean?

$s(5200) = 17.222$ At 5200 feet elevation, the daily snowfall in February is 17.222 inches

7) Determine $s(14,000)$. What is wrong with this value?

$s(14,000) = 1401.237$ At 14,000 feet elevation, the daily snowfall in February is 1401.237 inches

$$s(x) = 1.28(1.0005)^x$$

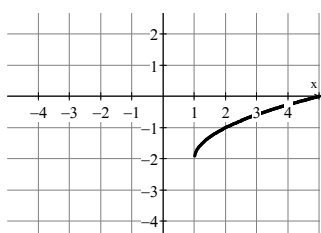
ELEVATION (in feet)	SNOWFALL (in inches)
2000	3.479
3000	5.734
4000	9.453
5000	15.584

8) If you were reading the equation $g(3) = 50$ out loud, what would you say? (Write exactly word-for-word how you would say it.)

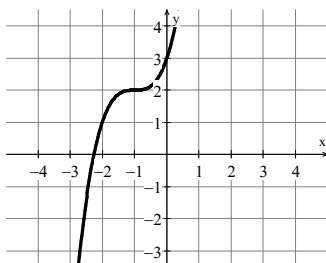
Gee of three equals fifty
😊

Skillz Review: Write the function of each graph using $f(x) = \sqrt{x}$, $f(x) = x^3$, $f(x) = |x|$, or $f(x) = x^2$.

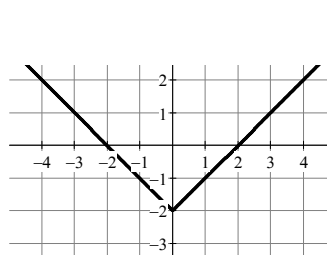
1) $f(x) = \sqrt{x-1} - 2$



2) $f(x) = (x+1)^3 + 2$



3) $f(x) = |x| - 2$



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

