Knowledge Check: Functions

John Farrell (https://www.acns.colostate.edu/single-sign-on-using-shibboleth/#1471272725675-5603b487-ebab)

Due Sep 11 at 11:59pm **Points** 100 **Questions** 6
Available Sep 5 at 12am - Dec 11 at 11:59pm **Time Limit** None
Allowed Attempts Unlimited

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 6	3 minutes	100 out of 100
LATEST	Attempt 6	3 minutes	100 out of 100
	Attempt 5	6 minutes	84 out of 100
	Attempt 4	4 minutes	65.33 out of 100
	Attempt 3	2 minutes	60 out of 100
	Attempt 2	21 minutes	46 out of 100
	Attempt 1	4 minutes	54 out of 100

Score for this attempt: **100** out of 100
Submitted Sep 10 at 7:54pm
This attempt took 3 minutes.

Question 1 — 16 / 16 pts

Which of the following functions f: **R** → **R** are valid?

- [ ] f(x) = ±sqrt(x)
- [x] f(x) = floor(x)
- [ ] f(x) = 1/x

Correct!

Correct!

- [x] f(x) = 3

Question 2

14 / 14 pts

Why is the function f:**R** → **R** defined by f(x) = sqrt(x) not well defined?

- [ ] This function is well defined.
- [ ] Some elements in the domain map to more than one element in the range.

Correct!

- [x] Some elements in the domain do not map to an element in the range.

Question 3

14 / 14 pts

Why is the function f:**R** → **R** defined by f(x) = 1/(x-1) not well defined?

Correct!

- [x] Some elements in the domain do not map to an element in the target.
- [ ] Some elements in the domain map to more than one element in the target.
- [ ] This function is well defined.

Question 4

24 / 24 pts

Let the function f: Z → **Z** (the integers) be defined as

f(x) = |x|.

What are the

1. Domain [Select]
2. Range [Select]
3. Target Z (the integers)

of this function?

Answer 1:

Correct! Z (the integers)

Answer 2:

Correct! N (the natural numbers)

Answer 3:

Correct! Z (the integers)

Question 5

16 / 16 pts

Which of the following functions f: **R** → **Z** are not one to one?

Correct! ☑ f(x) = floor(x)

Correct! ☑ f(x) = ceiling(x)

Correct! ☑ f(x) = ceiling(x+1/2) + floor(x - 1/2)

Question 6

16 / 16 pts

Which of the following functions functions f: **Z** → **Z** are not onto?

Correct! ☑ f(x) = 2x

Correct! ☑ f(x) = x^2

☐ f(x) = x + 1

☐ f(x) = floor(x/2)

Quiz Score: **100** out of 100