# Practice quiz on the Number Line, including Inequalities

TOTAL POINTS 8

1.	Which of the	following	real nun	hers is	not an	integer?

1 / 1 point

- O 7
- $\bigcirc$  -3
- $\bigcirc$  0
- 4.3

#### ✓ Correct

 $4.3 \ \mbox{is a decimal that is between two consecutive integers (4 and 5).}$ 

2. Which of the following is the absolute value |-7| of the number -7?

1 / 1 point

- $\bigcirc$  0
- 7
- $\bigcirc$  -7
- $\bigcirc$  1

### ✓ Correct

The absolute value of a number x is the distance along the number line from x to 0. In this case, -7 is 7 units away from 0, and so |-7|=7.

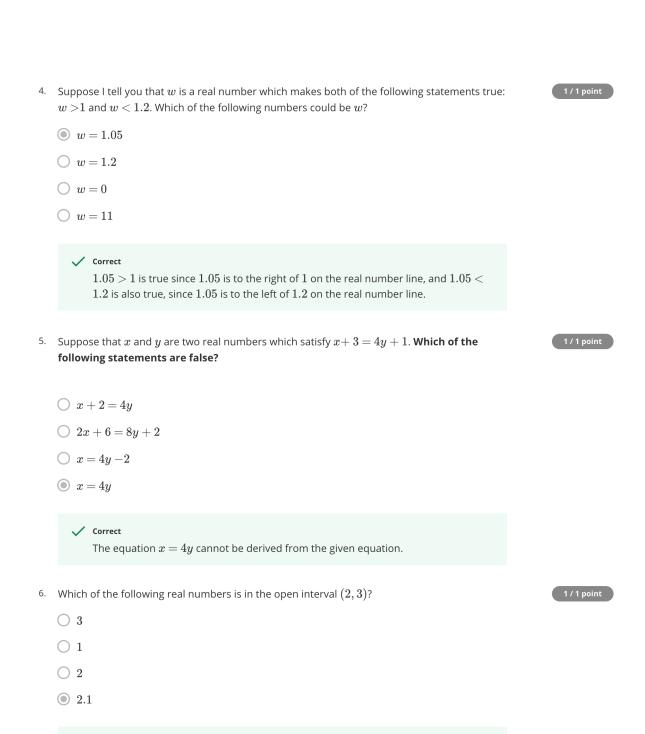
3. Suppose I tell you that x and y are two real numbers which make the statement x < y true. Which pair of numbers *cannot* be values for x and y?

1 / 1 point

- $\bigcirc \ x=1$  and y=7.3
- $\bigcirc$  x=5 and y=3.3
- $\bigcirc \ x = -1$  and y = 0
- $\bigcirc \ \ x = -17.3 \ {\rm and} \ \ y = -17.1$

#### ✓ Correct

The statement x < y means that x is to the left of y on the real number line. Since 5 is to the right of 3.3, these cannot be values for x and y.



Recall that the open interval (2,3) consists of all real numbers x which satisfy 2 < x < 3. Since 2.1 > 2 and 2.1 < 3, the number 2.1 is in this open interval.

✓ Correct

7.	Which of the	following rea	Inumbers	are in the	open rav	(3.1.	00)	1?
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1 / 1 point

- $\bigcirc$  0
- $\bigcirc$  3.1
- 4.75
- $\bigcirc$  -5

## ✓ Correct

Recall that  $(3.1, \infty) = \{x \in \mathbb{R} \mid x > 3.1\}$ . Since 4.75 > 3.1 is true,  $4.75 \in (3.1, \infty)$ .

8. Which of the following values for x solves the equation -3x+2=-4

1 / 1 poin

- $\bigcirc$  All values of x such that  $x \leq 2$
- $\bigcirc \ x = \frac{2}{3}$
- $\bigcirc$  x=2
- $\bigcirc x = -2$

#### ✓ Correc

First we subtract 2 from both sides of the given equation, to obtain -3x=-6. Finally, to isolate x we divide both sides of the equation by -3 to obtain x=2.