

Lesson 1: Variables, Constants, and Real Numbers

Practice Problems

Please take out a sheet of paper and pencil to complete this practice activity. You will be able to check your answers with the link provided within the lesson to see how well you did.

For each number below note all subsets that each real number belongs to by writing **N** for natural number, **W** for whole number, or **Z** for integer. Some numbers may belong to more than one subset.

Example: 8 **N**, **W**, **Z**

- 1) 6
- 2) 12
- 3) 0
- 4) 1
- 5) -3
- 6) -7
- 7) -805
- 8) -1,000
- 9) Is the number 0 a positive number, a negative number, neither, or both?
- 10) An integer is an even integer if it is evenly divisible by 2. Draw a number line that extends from -5 to 5 and place points at all negative even integers and all positive odd integers.
- 11) Draw a number line that extends from -5 to 5. Place points at all integers that satisfy $-3 \leq x < 4$.
- 12) Is there a largest two digit number? If so, what is it?
- 13) Is there a smallest two digit number? If so, what is it?

For the pairs of real numbers in the following 5 problems, write the appropriate symbol ($<$, $>$, $=$) in place of the \square .

1) $-7 \square -2$

2) $-5 \square 0$

3) $-1 \square 4$

4) $6 \square -1$

5) $10 \square 10$

For the following problems, what numbers can replace m so that the following statements are true?

1) $-1 \leq m \leq -5$, m an integer

2) $-7 < m < -1$, m an integer

3) $-3 \leq m < 2$, m a natural number

4) $-15 < m \leq -1$, m a natural number

5) $-5 \leq m < 5$, m a whole number

For the following 10 problems, on the number line, how many units are there between the given pair of numbers?

1) 0 and 3

2) -4 and 0

3) -1 and 6

4) -6 and 2

5) -3 and 3

6) Are all positive numbers greater than zero?

7) Are all positive numbers greater than all negative numbers?

8) Is 0 greater than all negative numbers?

9) Is there a largest natural number?

10) Is there a largest negative integer?

Resource:

Ellis, W., & Burzynski, D. (2010, August 18). *Signed Numbers: Variables, Constants, and Real Numbers*. Retrieved from: <http://cnx.org/content/m35027/1.2/>. This work is licensed under the Creative Commons Attribution 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>.