Name:

Unit 1 - Day 2

Number Sets and Closure HOMEWORK

#1-6) Identify whether the indicated is closed under the given operation. If it is not closed, provide a counter example.

1. Whole numbers are closed under subtraction.

NOT CLOSED!
0 - 2 = -2

2. Even whole numbers are closed under addition.

CLOSED!

3. Rational numbers are closed under multiplication.

CLOSED!

4. Counting numbers are closed under subtraction.

NOT CLOSED!
3 - 4 = -1

5. The number set {0, 5, 10, 15, 20, 25, ...} is closed under addition.

CLOSED!

6. Integers are closed under division.

NOT CLOSED
$\frac{1}{2} = .5$

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NOT CLOSED! $\frac{1}{2} = .5$

#7-8) Give an example of a number that satisfies the following:

7. Rational but not an integer.

$\frac{1}{2}, -3/4, \ldots$

8. Whole but not counting.

0 ← only answer

#9-10) Determine whether the statement is TRUE or FALSE.

9. -2 is a whole number.

False

10. $\frac{1}{3}$ is a rational number.

True

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7. Rational but not an integer.

8. Whole but not counting.

#9-10) Determine whether the statement is TRUE or FALSE.

9. -2 is a whole number.

10. $\frac{1}{3}$ is a rational number.