

Whenever appropriate, show all work

**Evaluate the expression for the values provided.**

1)  $3 - r^2 + s$ , for  $r = 4$  and  $s = 20$

1) \_\_\_\_\_

2)  $16 - (a - b)^2$ , for  $a = 8$  and  $b = 13$

2) \_\_\_\_\_

3)  $x - [y(3 - x)]^2$ , for  $x = 8$  and  $y = 3$

3) \_\_\_\_\_

**Tell whether the number is a solution of the given equation or inequality.**

4) 17;  $30 - 2n = 4$

4) \_\_\_\_\_

5) 5;  $12 - x = 4$

5) \_\_\_\_\_

6) 3;  $-5x - 3x = -5$ .

6) \_\_\_\_\_

**Use roster notation to write the set.**

7) The set of natural numbers that are multiples of 4

7) \_\_\_\_\_

8)  $\{x \mid x \text{ is an even integer greater than } 6\}$

8) \_\_\_\_\_

9) The set of all integers that are not natural numbers

9) \_\_\_\_\_

**Use set-builder notation to write the set.**

10)  $\{-3, -2, -1, 0, 1\}$

10) \_\_\_\_\_

11) The set of odd numbers

11) \_\_\_\_\_

**Answer the question.**

12) Consider the numbers  $13, \sqrt{5}, -6, 0, \frac{0}{2}, \sqrt{25}, \frac{1}{5}$ . Which are integers?

12) \_\_\_\_\_

13) Consider the numbers  $20, \sqrt{7}, -19, 0, \frac{0}{7}, \sqrt{4}, \frac{-6}{0}$ . Which are real numbers?

13) \_\_\_\_\_

14) Consider the numbers  $2, \sqrt{5}, -12, 0, \frac{0}{2}, \sqrt{25}, \frac{-5}{0}, 0.9$ . Which are rational numbers but not integers?

14) \_\_\_\_\_

**Classify the statement as true or false. Consult the following list as needed.**

**N = the set of natural numbers**

**W = the set of whole numbers**

**Z = the set of integers**

**Q = the set of rational numbers**

**H = the set of irrational numbers**

**R = the set of real numbers**

15)  $62 ? N$

15) \_\_\_\_\_

16)  $\sqrt{37} ? Q$

16) \_\_\_\_\_

17)  $298.2 ? H$

17) \_\_\_\_\_

18)  $693.6 ? Z$

18) \_\_\_\_\_

**Evaluate using a graphing calculator.**

19)  $20 - (y - 1)^2 + 13$ , for  $y = 7$

19) \_\_\_\_\_

20)  $3.31 + (4.97x - 1.68) + 5^4$ , for  $x = 9.00$

20) \_\_\_\_\_

## Answer Key

Testname: SECTIONS1-1-2

- 1) 7
- 2) -9
- 3) -217
- 4) No
- 5) No
- 6) No
- 7) {4, 8, 12, ...}
- 8) {8, 10, 12, ...}
- 9) {0, -1, -2, -3, ...}
- 10) {x | x is an integer greater than -4 and less than 2}
- 11) {x | x = 2n + 1, n is an integer}
- 12) 13, -6, 0,  $\frac{0}{2}$ ,  $\sqrt{25}$
- 13) 20,  $\sqrt{7}$ , -19, 0,  $\frac{0}{7}$ ,  $\sqrt{4}$
- 14) 0.9
- 15) True
- 16) False
- 17) True
- 18) False
- 19) -3
- 20) 671.36