Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block:\_\_\_

Quiz: Unit3. Relations, Functions

Practice

Chapter 3

Group A.

There are 5 questions in this quiz, each of equal value.

Standard time for the test is 15 minutes .

No calculator is allowed. (accommodation excepted)

**Question 1:**

For each of the following, determine the Domain, Range, and for the Type choose the most specific name from the following list: “Relation”, “Function”, or “1-to-1 function”.

|  |  |
| --- | --- |
| a.Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Range:\_\_\_\_\_\_\_\_\_\_\_\_\_Type:\_\_\_\_\_\_\_\_\_\_\_\_ | b.Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Range:\_\_\_\_\_\_\_\_\_\_\_\_\_Type:\_\_\_\_\_\_\_\_\_\_\_\_ |
| c.Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Range:\_\_\_\_\_\_\_\_\_\_\_\_\_Type:\_\_\_\_\_\_\_\_\_\_\_\_ | d.Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Range:\_\_\_\_\_\_\_\_\_\_\_\_\_Type:\_\_\_\_\_\_\_\_\_\_\_\_ |

**Question 2:**

Given the following definitions:

$f\left(x\right)= 2x+5$ , $g\left(x\right)= x^{2}-3$ , $ h\left(x\right)=\left|7-x\right|$

Find the following:

a) $f\left(3\right)$

b) $g\left(-1\right)$

c) $\left(h+f\right)\left(-7\right)$

d) $f\left(h\left(8\right)\right)$

**Question 3:**

Given the following definitions:

$f\left(x\right)= 3x+2$ , $g\left(x\right)= x^{2}$ , $ h\left(x\right)=\left|x-2\right|$

Find the following:

a) $f\left(2x+1\right)$

b) $h\left(2x+1\right)$

c) $(h∘g)(x)$

d) $(h∘f)(x)$

**Question 4:**

In a parking garage the sign says:

1. First 2hrs (or part thereof) : $18
2. Every additional hour over (or part thereof) : $5

Assuming you will park for at least 3 hours (and possibly more), express your final cost as a combination of the following functions (you can use all the operations we learned in class on functions)

 $f\left(x\right)= x-2$ , $g\left(x\right)= 5x$ , $ h\left(x\right)=18$

Explain your reasoning in not more than 3 sentences.

Note: You can assume that the number of hours is given as an integer.

|  |  |
| --- | --- |
| **Question 5a:**  Simplify the following expression so it includes only positive exponents.$$\left(\frac{y^{2}⋅5}{25⋅y^{-3}}\right)^{2}$$ | **Question 5b:**  Solve the equation $A-P=Prt$ , for $P$.  |

=== End ====