

Name: _____

Block: _____

Quiz: Unit3. Relations, Functions

Chapter 3

Group A.

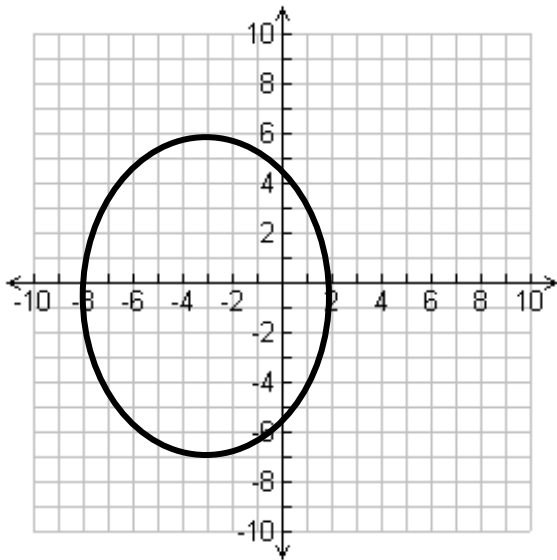


There are 5 questions in this quiz, each of equal value.
Standard time for the test is 15 minutes .
No calculator is allowed. (accommodation excepted)

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.

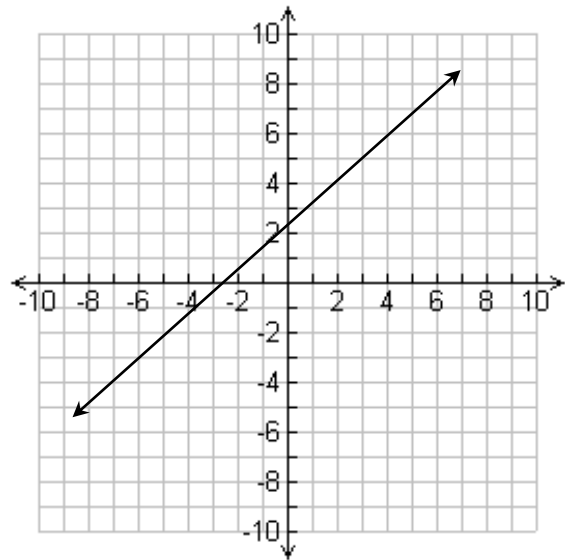


Domain: _____

Range: _____

Type: _____

b.

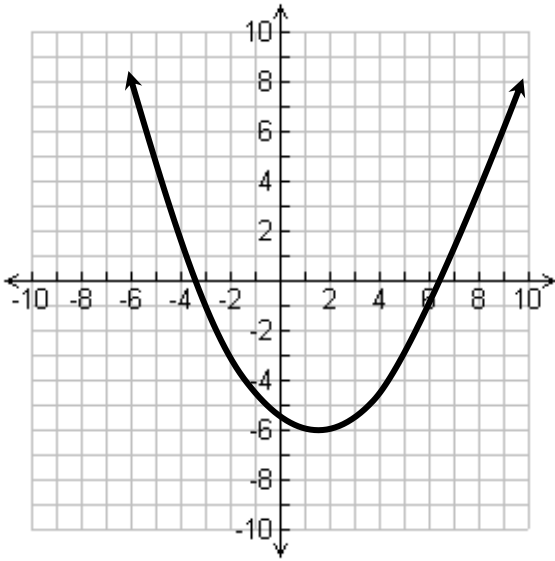


Domain: _____

Range: _____

Type: _____

c.

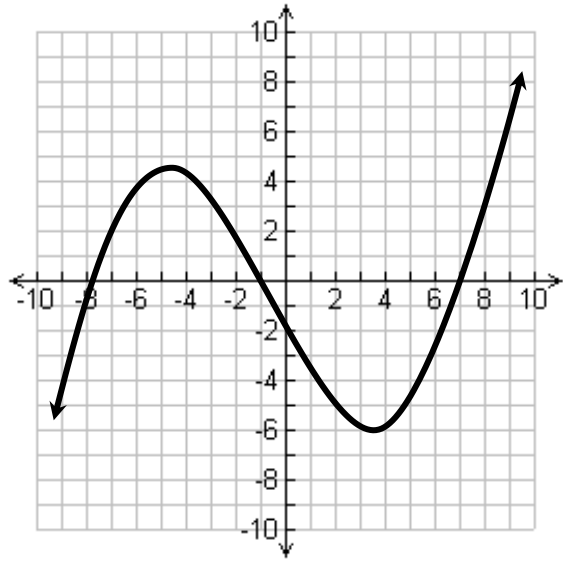


Domain: _____

Range: _____

Type: _____

d.



Domain: _____

Range: _____

Type: _____

Question 2:

Given the following definitions:

$$f(x) = 2x + 5 \quad , \quad g(x) = x^2 - 3 \quad , \quad h(x) = |7 - x|$$

Find the following:

a) $f(3)$

b) $g(-1)$

c) $(h + f)(-7)$

d) $f(h(8))$

Question 3:

Given the following definitions:

$$f(x) = 3x + 2 \quad , \quad g(x) = x^2 \quad , \quad h(x) = |x - 2|$$

Find the following:

a) $f(2x + 1)$

b) $h(2x + 1)$

c) $(h \circ g)(x)$

d) $(h \circ f)(x)$

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)

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

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.

$$\left(\frac{y^2 \cdot 5}{25 \cdot y^{-3}} \right)^2$$

Question 5b:

Solve the equation $A - P = Prt$, for P .

=== End ===