Anthony Paolillo **23_Fa201_EF**

Assignment 1.1_Four_Ways_to_Represent_a_Function due 09/05/2023 at 11:59pm EDT

Problem 1. **(1 point)** Library/Rochester/setAlgebra15Functions/srw2_2_41_51.pg

Enter Yes or No in each answer space below to indicate whether the corresponding equation defines y as a function of x.

Note: Be careful, You only have TWO chances to get them right.

___1. $3x = y^2$
___2. $2|x| + y = 9$
___3. $x^2y + y = 3$
___4. $9 + x = y^3$

Answer(s) submitted:

-
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-
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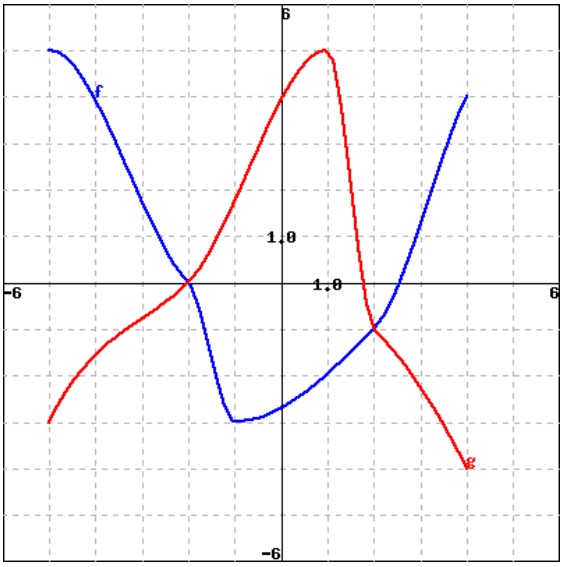
(incorrect)

Problem 2. **(1 point)** Library/Rochester/setAlgebra16FunctionGraphs/ns1_1_2.pg



Given the graphs of f (in blue) and g (in red) to the left answer these questions:

_____ 1. What is the value of f at -5?
_____ 2. For what values of x is $f(x) = g(x)$: Separate answers with commas (e.g " 5, 7").
_____ 3. Estimate the solution of the equation $g(x) = -4$.
_____ 4. On what interval is the function f decreasing? Give your answer in **interval notation**.

Answer(s) submitted:

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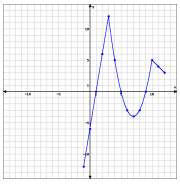
(incorrect)

Problem 3. **(1 point)** Library/Mizzou/Algebra/functions_domain_range/fun_dom_23.pg

Given the graph of $y = f(x)$ below, answer all of the following questions.



(a) Determine $f(4)$: _____
(b) Determine $f(-1)$: _____
(c) Domain: _____
(d) Range: _____

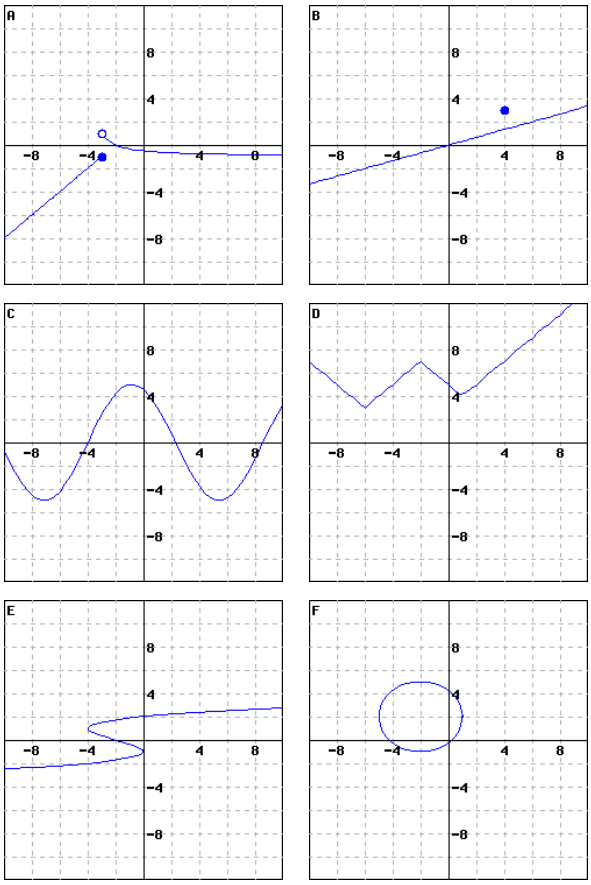
Answer(s) submitted:

-
-
-
-

(incorrect)

Problem 4. **(1 point)** Library/PCC/BasicAlgebra/FunctionBasics/FunctionOrNotByGraph30.pg

Which of the following graphs represent y as a function of x?



Select the letters of the graphs that do represent y as a function of x.

- A. A
- B. B
- C. C
- D. D
- E. E
- F. F
- G. None of the above

Answer(s) submitted:

-

(incorrect)

Problem 5. **(1 point)** Library/Rochester/setAlgebra15Functions/srw2_1_33.pg

Given the function $f(x) = 2+7x^2$, calculate the following values:

$f(a) =$ _____

$f(a+h) =$ _____

$\dfrac{f(a+h)-f(a)}{h} =$ _____

Answer(s) submitted:

-
-
-

(incorrect)

Problem 6. **(1 point)** Library/Mizzou/College_Algebra/Functions_Difference_Quotient/Fraction2.pg

Find the difference quotient for the function $f(x) = \dfrac{2}{x+5}$. Simplify your answer as much as possible.

$$\frac{f(x+h)-f(x)}{h} = \_\_\_\_\_$$

Answer(s) submitted:

-
-

(incorrect)

Problem 7. **(1 point)** Library/UVA-Stew5e/setUVA-Stew5e-C01S01-Functions/1-1-24.pg

Let

$$f(x) = \frac{x-2}{x^2-2x-48}.$$

Use **interval notation** to indicate the domain of $f(x)$.

Domain = _____

Answer(s) submitted:

-

(incorrect)

Problem 8. **(1 point)** Library/UVA-Stew5e/setUVA-Stew5e-C01S01-Functions/1-1-25.pg

Let

$$f(x) = \sqrt[4]{x^2 - 7x}.$$

Use interval notation to indicate the domain of $f(x)$.

Note: When entering interval notation in WeBWorK, use **I** for ∞, **-I** for $-\infty$, and **U** for the union symbol. If the set is empty, enter "" without the quotation marks.

Domain = _____

Answer(s) submitted:

-

(incorrect)

Problem 9. **(1 point)** Library/UVA-Stew5e/setUVA-Stew5e-C01S01-Functions/1-1-27.pg

Let

$$f(x) = \sqrt[3]{9x^2 - 14x}.$$

Use interval notation to indicate the domain of $f(x)$.

Note: When entering interval notation in WeBWorK, use **I** for ∞, **-I** for $-\infty$, and **U** for the union symbol. If the set is empty, enter "" without the quotation marks.

Domain = _____

Answer(s) submitted:

-

(incorrect)

Problem 10. **(1 point)** Library/Mizzou/College_Algebra/Functions_Domain_Range/FracSqrt2.pg

Find the domain of the function

$$f(x) = \frac{\sqrt{5 - 2x}}{x^2 - 64}$$

and write your answer in interval notation.

Domain: _____

Help: Click here for help entering intervals.

Answer(s) submitted:

-

(incorrect)

Problem 11. **(1 point)** Library/Mizzou/Algebra/functions_piecewise/evaluate_at_a_point_01.pg

Find the following values of the function

$$f(x) = \begin{cases} x + 10 & x \leq 5 \\ 3 - x & x > 5 \end{cases}$$

$f(2) =$ _____
$f(5) =$ _____
$f(12) =$ _____

Answer(s) submitted:

-
-
-

(incorrect)

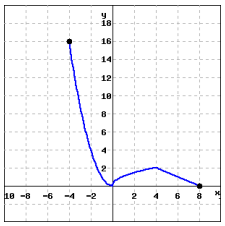
Problem 12. **(1 point)** Library/LoyolaChicago/Precalc/Chap2Sec3/Q04.pg

Graph the piecewise defined function below. Use an open circle to represent a point which is not included and a solid dot to indicate a point which is on the graph.

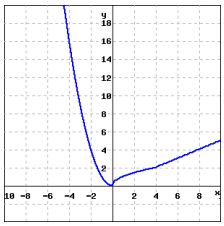
$$f(x) = \begin{cases} x^2 & x \leq 0 \\ \sqrt{x} & 0 < x < 4 \\ x/2 & x \geq 4 \end{cases}$$

After you have graphed the function on a separate piece of paper, indicate which of the graphs below matches the graph you sketched. You should assume a graph continues on to $\pm\infty$ unless it has an open or closed endpoint marked.

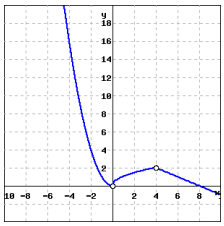
Choose the letter A-E of the correct graph [?]



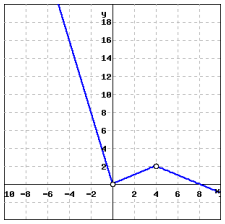
A



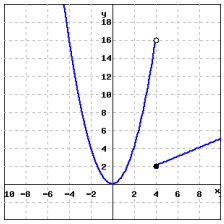
B



C



D



E

Answer(s) submitted:

-

(incorrect)

Problem 13. **(1 point)** Library/Mizzou/College_Algebra/Functions_Increasing_Decreasing/Corral.pg

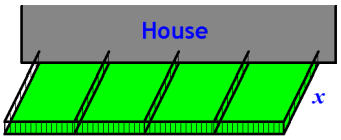


Figure 1

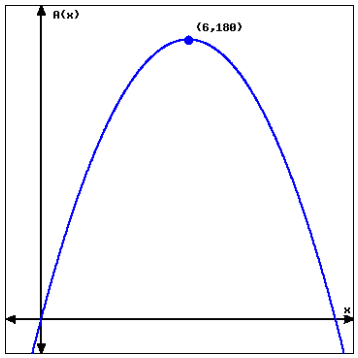


Figure 2

Tessa has 60 ft of fencing available to construct a fence that will divide her garden into four rectangular sections. Her house forms one side of the garden and x represents the width, as shown in Figure 1.

(a) Express the total area of the four sections as a function of x.

$A(x) =$ _____

(b) Find the domain of the function. Write your answer as a compound inequality involving x.

Domain of $A(x)$: _____

(c) Using the graph of $A(x)$ shown in Figure 2, determine the dimensions that yield the maximum area.

Width: ___ ft

Length: ___ ft

Answer(s) submitted:

-
-
-
-

(incorrect)

Problem 14. **(1 point)** `Library/LoyolaChicago/Precalc/Chap9Sec4/Q14a.pg`

Determine whether each of the following rational functions is even, odd, or neither.

? 1. $\dfrac{x^3}{7x^2+1}$

? 2. $\dfrac{2x^4+8x^3}{x^3+4x^2}$

? 3. $\dfrac{4x^3+2x}{7x^4}$

? 4. $\dfrac{1}{x^2+9x^6}$

? 5. $\dfrac{4x^3+2x}{7x^5+3x^3}$

? 6. $\dfrac{x^3+4x^2}{7x^2+1}$

? 7. $\dfrac{x^2-4}{x-2}$

? 8. $\dfrac{1}{x^2}-\dfrac{5}{x^8}$

Answer(s) submitted:

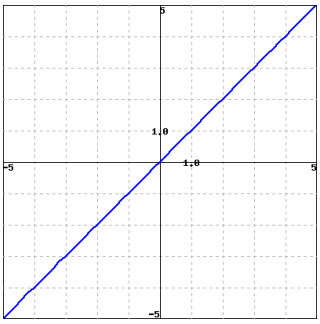
-
-
-
-
-
-
-
-

(incorrect)

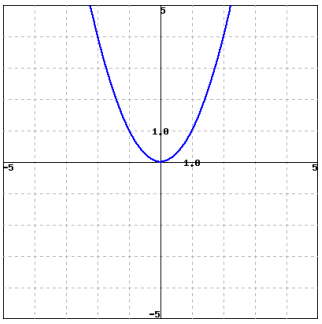
Problem 1. **(1 point)** Library/PCC/BasicAlgebra/RationalFunctions/rationalFunctionGraph10.pg

Match the graphs with the corresponding formulas.

? 1. $f(x) = \frac{1}{x^2}$
? 2. $f(x) = x$
? 3. $f(x) = 2$
? 4. $f(x) = |x|$
? 5. $f(x) = \frac{1}{x}$
? 6. $f(x) = x^2$



A



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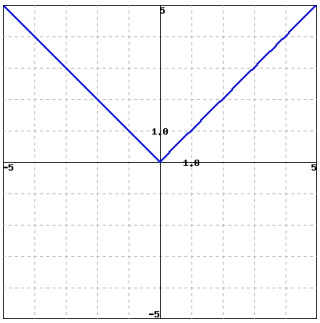
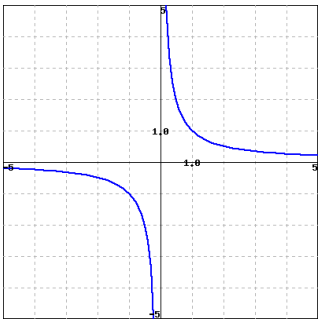
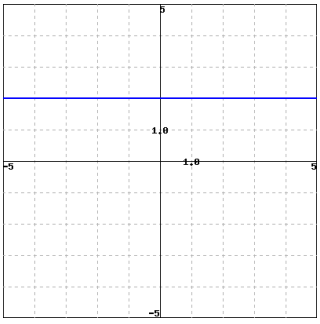


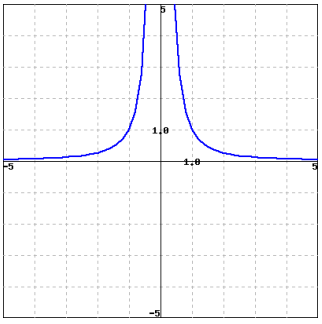
C



D



E



F

(Click on a graph to enlarge it)

Answer(s) submitted:

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-
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(incorrect)

Problem 2. **(1 point)** Library/Utah/Business_Algebra/set7_Matrices/p02.pg

Find the vertex of the parabola $y = 6-(x+16)^2$ and determine whether it is a minimum or maximum .
The vertex is the point (_____, _____) and it is a (MIN or MAX) _____

Answer(s) submitted:

-
-
-

(incorrect)

Problem 3. **(1 point)** Library/Utah/Business_Algebra/set7_Matrices/p01.pg

Find the vertex of the parabola $y = (x-8)^2+4$ and determine whether it is a minimum or maximum .
The vertex is the point (_____, _____) and it is a (MIN or MAX) _____

Answer(s) submitted:

-
-
-

(incorrect)

Problem 4. **(1 point)** Library/UVA-Stew5e/setUVA-Stew5e-C01S01-Functions/1-1-43.pg

Find an expression for the function $f(x)$ whose graph is given by the bottom half of the parabola

$$x+(y-8)^2 = 0.$$

$f(x)$ = _____

Answer(s) submitted:

-

(incorrect)

Problem 5. **(1 point)** Library/UVA-Stew5e/setUVA-Stew5e-C01S01-Functions/1-1-44.pg

Find an expression for the function $f(x)$ whose graph is given by the top half of the circle

$$(x-7)^2+y^2=100.$$

$f(x)$ = _____

Answer(s) submitted:

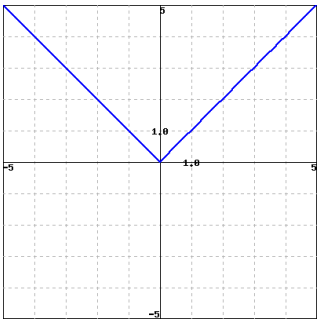
-

(incorrect)

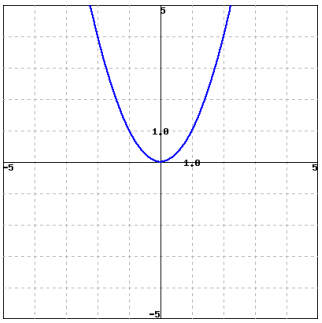
Problem 6. **(1 point)** Library/PCC/BasicAlgebra/RationalFunctions/rationalFunctionGraph10.pg

Match the graphs with the corresponding formulas.

? 1. $f(x)=4$
? 2. $f(x)=\frac{1}{x}$
? 3. $f(x)=x$
? 4. $f(x)=x^2$
? 5. $f(x)=\frac{1}{x^2}$
? 6. $f(x)=|x|$



A



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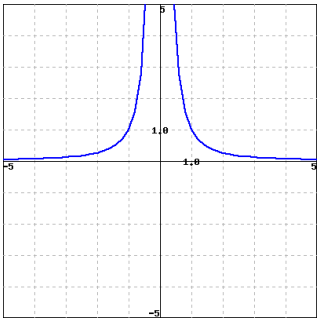

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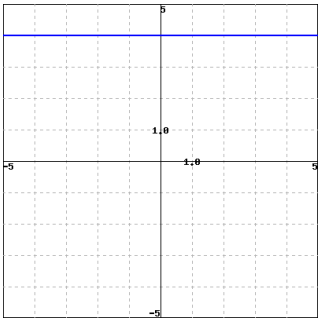

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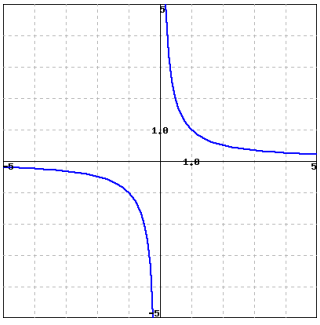
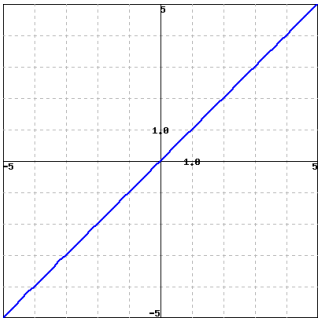


E



F

Problem 7. **(1 point)** Library/PCC/BasicAlgebra/RationalFunctions/rationalFunctionDefinition10.pg

Select all rational functions. There are several correct answers.

- A. $r(x)=\frac{2x^2+2x-3}{2-6x^{-2}}$
- B. $a(x)=\frac{2x^2+2x-3}{2-6x^2}$
- C. $b(x)=\frac{2x^2+2x-3}{2}$
- D. $t(x)=\frac{2-6x^3}{2x^{0.7}+2x-3}$
- E. $h(x)=\frac{2}{2x^2+2x-3}$
- F. $s(x)=\frac{\sqrt{2}x^2+2x-3}{2-6x^2}$
- G. $m(x)=\frac{2x+2}{2x+2}$
- H. $n(x)=\frac{2x^2+2\sqrt{x}-3}{2-6x^2}$
- I. $c(x)=\frac{2x^2+2x-3}{2+|x|}$

To receive full credit, you must get each checkbox correct.
Answer(s) submitted:

-

(incorrect)