

WeBWorK assignment number MPT_Practice_Functions_2011 is due : 09/14/2012 at 11:00pm PDT.

The following link

<http://mathweb1.sandbox.csun.edu/mpt/>

contains other important information about this course.

The primary purpose of WeBWorK is to let you know that you are getting the correct answer or to alert you if you are making some kind of mistake. Usually you can attempt a problem as many times as you want before the due date. However, if you are having trouble figuring out your error, you should consult the book, or ask a fellow student, one of the TA's or your professor for help. Don't spend a lot of time guessing – it's not very efficient or effective.

Give 4 or 5 significant digits for (floating point) numerical answers. For most problems when entering numerical answers, you can if you wish enter elementary expressions such as $2 \wedge 3$ instead of 8, $\sin(3 * \pi/2)$ instead of -1, $e \wedge (\ln(2))$ instead of 2, $(2 + \tan(3)) * (4 - \sin(5)) \wedge 6 - 7/8$ instead of 27620.3413, etc. Here's the **list of the functions** which WeBWorK understands.

You can use the Feedback button on each problem page to send e-mail to the professors.

1. (1 pt) Let

$$f(x) = \frac{x+1}{3x-2}.$$

Compute the following values. If one is not defined, type *Undefined*.

$$f(0) = \underline{\hspace{2cm}}$$

$$f(-1) = \underline{\hspace{2cm}}$$

$$f(2/3) = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- -.5
- 0/20002348
- Undefined

(correct)

2. (1 pt) Given that $f(x) = x^2 - 7x$ and $g(x) = x + 4$, find

(a) $f + g = \underline{\hspace{2cm}}$

(b) $f - g = \underline{\hspace{2cm}}$

(c) $fg = \underline{\hspace{2cm}}$

(d) $f/g = \underline{\hspace{2cm}}$

Answer(s) submitted:

- $x^2 - 6x + 4$
- $x^2 - 8x - 4$
- $(x^2 - 7x)(x+4)$
- $(x^2 - 7x) / (x+4)$

(correct)

3. (1 pt) Let $f(x) = \frac{1}{x}$ and $g(x) = 5x - 7$. Evaluate the following:

1. $(f \circ g)(x) = \underline{\hspace{2cm}}$

2. $(g \circ f)(x) = \underline{\hspace{2cm}}$

3. $(f \circ f)(x) = \underline{\hspace{2cm}}$

4. $(g \circ g)(x) = \underline{\hspace{2cm}}$

Answer(s) submitted:

- $1/(5x-7)$
- $5/x - 7$
- x
- $5(5x-7) - 7$

(correct)

4. (1 pt) Let $f(x) = 14x^3 - 4$. Find $f^{-1}(x)$.

$$f^{-1}(x) = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- $((x+4)/14)^{(1/3)}$

(correct)

5. (1 pt) Let $f(x) = \frac{10x+8}{3x+7}$. Find $f^{-1}(x)$.

$$f^{-1}(x) = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- $(8-7x)/(3x-10)$

(correct)

6. (1 pt)

If $f(x) = x^2 - 5x$ find:

$$f(a+1) - f(a) = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- $(a+1)^2 - 5(a+1) - a^2 + 5a$

(correct)

7. (1 pt)

If $f(x) = x^2$ find:

$$\frac{f(-2+h) - f(-2)}{h} = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- $((-2+h)^2 - (-2)^2)/h$

(correct)

8. (1 pt) The function $y = f(x)$ has an inverse function. The point $(2.5, 1)$ is on the graph of the function $y = f(x)$.

Which of the following points must be on the graph of the inverse function?

- a. $(-1, -2.5)$
- b. $(2.5, 1)$
- c. $(-2.5, 1)$
- d. $(1, 2.5)$

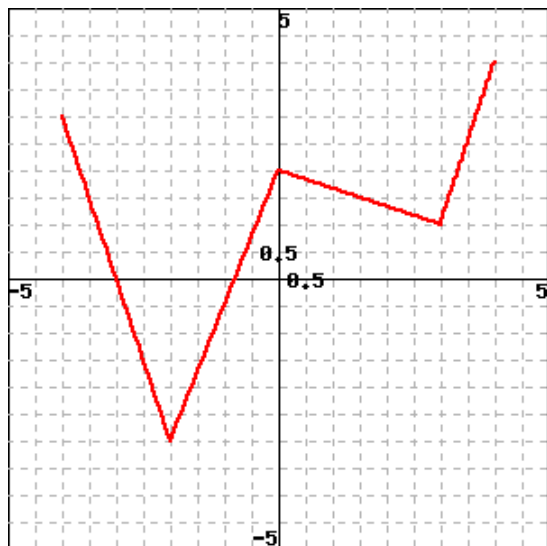
Enter "a", "b", "c", or "d". _____

Answer(s) submitted:

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(incorrect)

9. (1 pt) The graph of the function $y = f(x)$ is shown in the figure to the right. What is the range of this function?



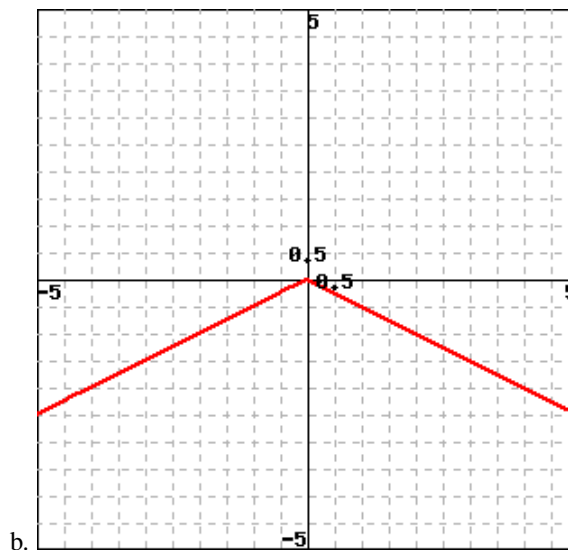
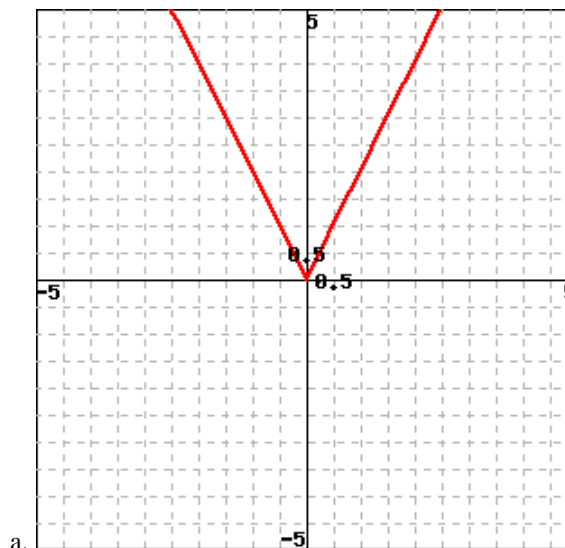
- a. $3 \leq y \leq 4$
- b. $-4 \leq x \leq 4$
- c. $-3 \leq x \leq 3$
- d. $-3 \leq y \leq 4$

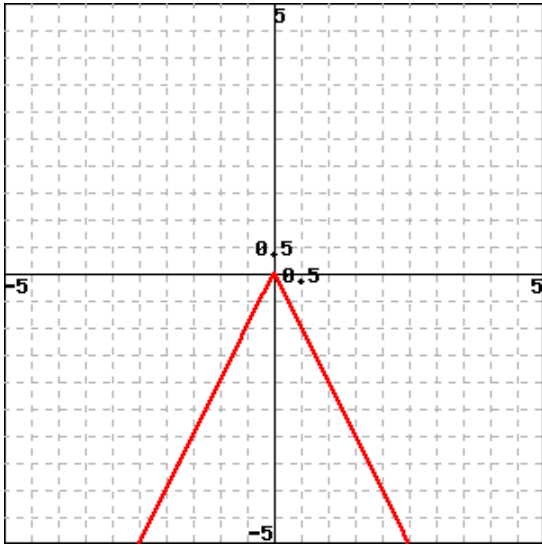
Enter "a", "b", "c", or "d". _____

Answer(s) submitted:

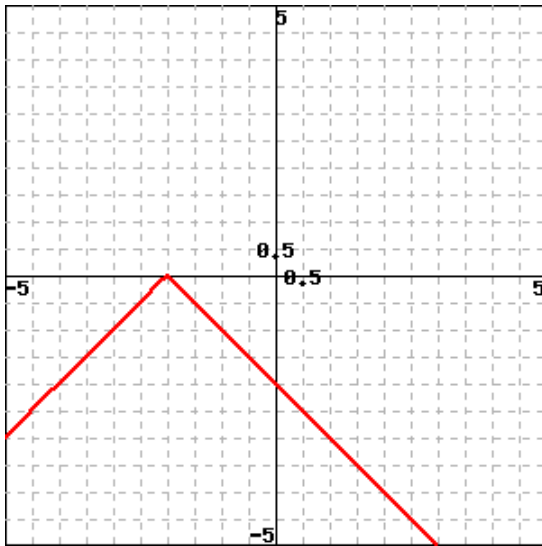
(incorrect)

10. (1 pt) Which of the following is the graph of $y = -|2x|$?





c.



d.

Enter "a", "b", "c", or "d". _____

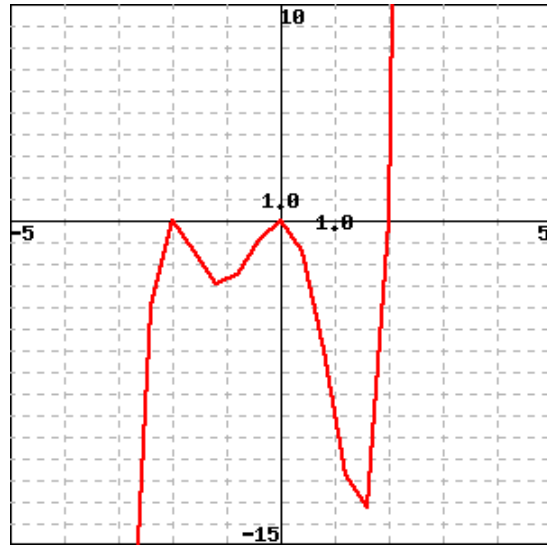
Answer(s) submitted:

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(incorrect)

11. (1 pt) The graph of the function $y = f(x)$ is shown in the figure below. For exactly how many values of x does $f(x) = -1$?

3



a. 0

b. 1

c. 2

d. 3

e. 5

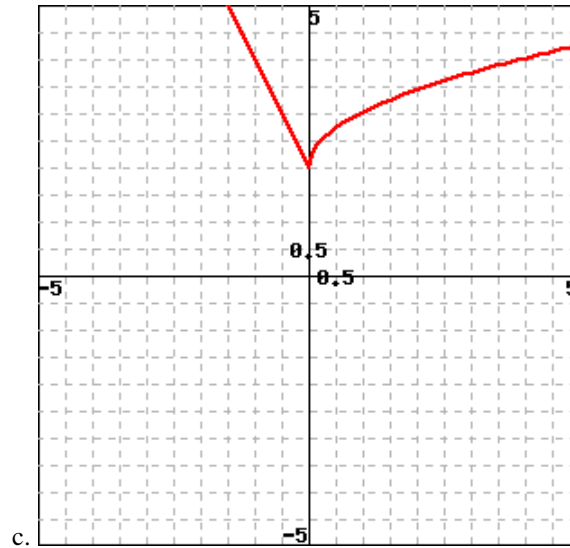
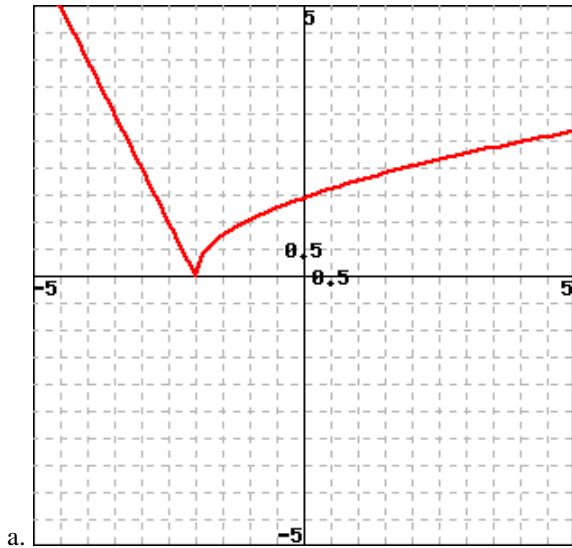
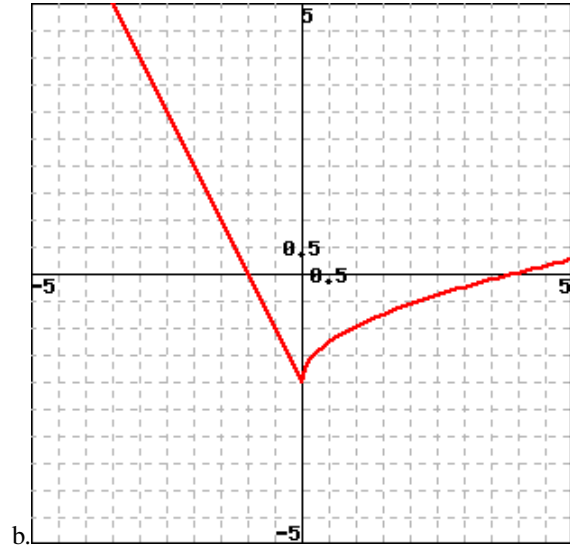
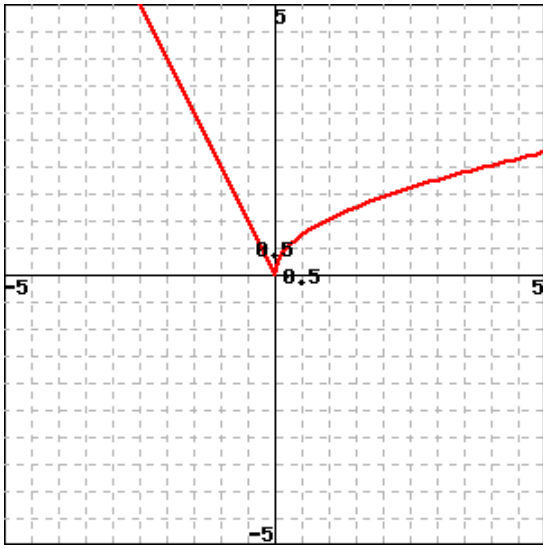
Enter "a", "b", "c", "d", or "e". _____

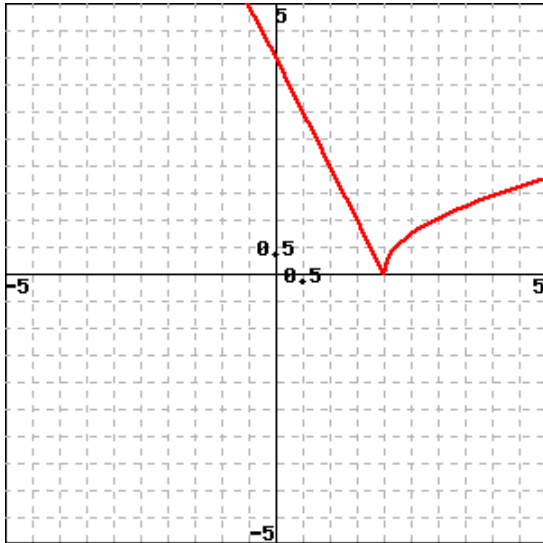
Answer(s) submitted:

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(incorrect)

12. (1 pt) The graph of the function $y = f(x)$ is shown in the figure below. Which of the following represents the graph of $y = f(x) - 2$?





d.

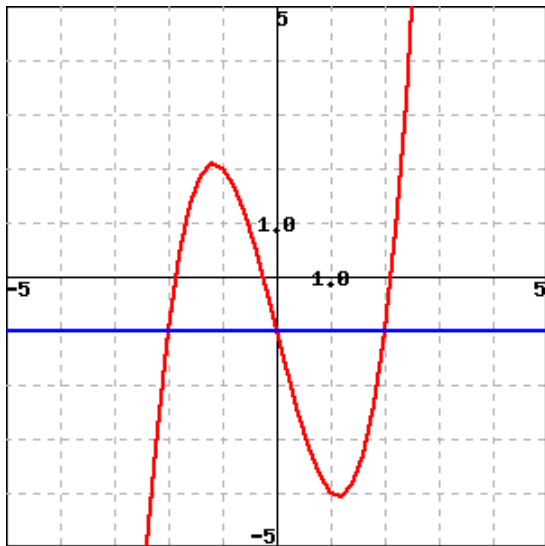
Enter "a", "b", "c", or "d". _____

Answer(s) submitted:

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(incorrect)

13. (1 pt) The graphs of the functions $y = f(x)$ (red) and $y = g(x)$ (blue) are shown in the figure below. What are all values of x for which $f(x) \geq g(x)$?



a. $-2 \leq x \leq 0$

b. $-1.861 \leq x \leq 0.254$ and $x \geq 2.115$

c. $-2 \leq x \leq 0$ and $x \geq 2$

d. $0 \leq x \leq 2$ and $x \leq -2$

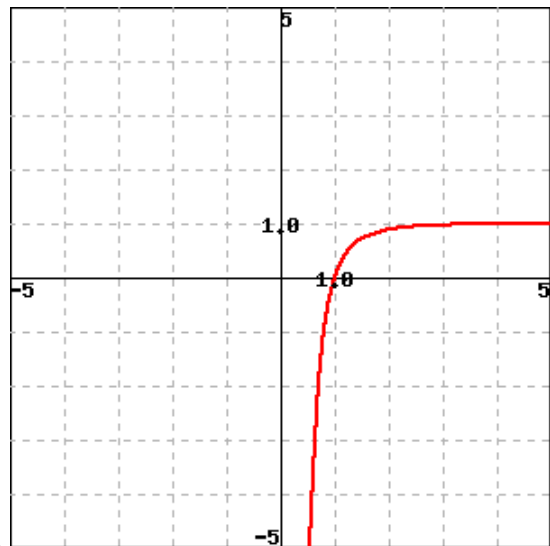
Enter "a", "b", "c", or "d". _____

Answer(s) submitted:

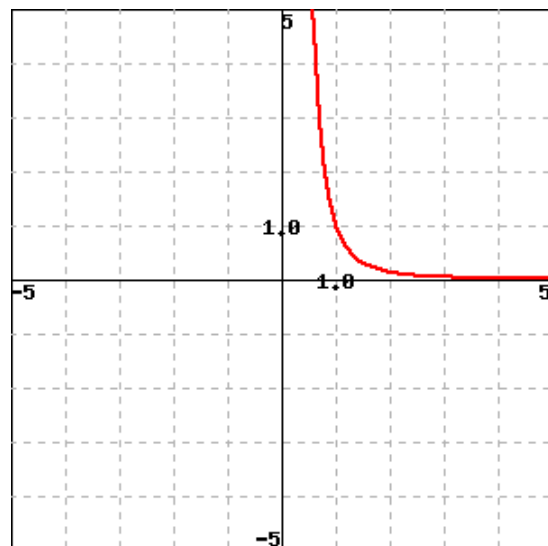
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(incorrect)

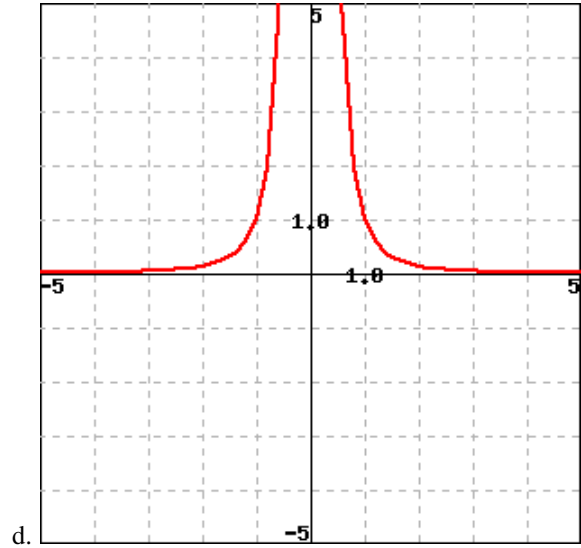
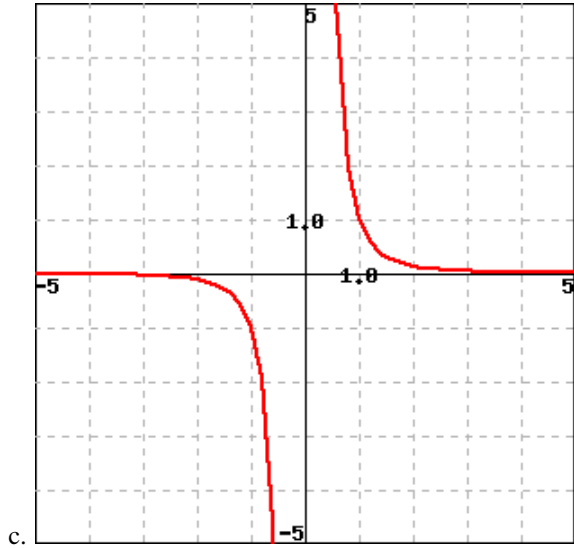
14. (1 pt) Which of the following could be a portion of the graph of $y = |\frac{1}{x^3}|$?



a.



b.



Enter "a", "b", "c", or "d". _____

Answer(s) submitted:

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(incorrect)