

MATH 1310 Review for Test -3

Where: CASA Testing Center

Time: 50 minutes

Number of questions: ??

? Multiple Choice Questions (total of ?? pts)

? Free Response Question (total of ?? pts)

What is covered: **Chapter 3.**

Do not forget to reserve a seat for Test – 3!

Take practice Test – 3! 10% of your best score will be added to your test grade.

For the free response part, please show your work neatly. Do not skip steps.

Remember the MAKE UP policy: NO MAKE UPS!

Question 1: Given the function $f(x) = \begin{cases} 2x-5, & x < -5 \\ x^2+1, & -5 \leq x \end{cases}$,

Find:

a) $f(6)$

b) $f(-10)$

c) $f(-5)$

Question 2: Find the domain of the following functions:

a) $g(x) = x^3 - 2x^2 + 7$

b) $f(x) = \frac{x-2}{5x-40}$

c) $f(x) = \sqrt{11-2x}$

Question 3: Which of the following points is ON the graph of the function

$$f(x) = 4x^2 - x + 1 ?$$

- a) (2, 12)
- b) (1, 0)
- c) (-1, 6)
- d) (0, 0)
- e) none

Question 4: Determine if the following function is even, odd, or neither.

a. $f(x) = x^3 + 5x$

b. $f(x) = 3x^4 - \frac{7}{x^2}$

Question 5: $f(x) = x^2 + 12x - 2$

What is the vertex of the function?

What is the maximum/minimum value?

Question 6: Given $f(x) = -3x^2 + 24x - 2$.

Write the function in standard form.

Question 7: Let $f(x) = \frac{4}{x-2}$ and $g(x) = x^2 + 1$.

Find $(f \circ g)(3)$

Question 8: Let $f(x) = x^3$ and $g(x) = 5x - 12$.

Find $(f \circ g)(x)$

Question 9: Suppose $f(x) = 4x + 11$. Let g be the inverse of f . Find $g(x)$.

Question 10: Suppose $f(x) = \frac{1}{x-8}$. Find $f^{-1}(x)$.

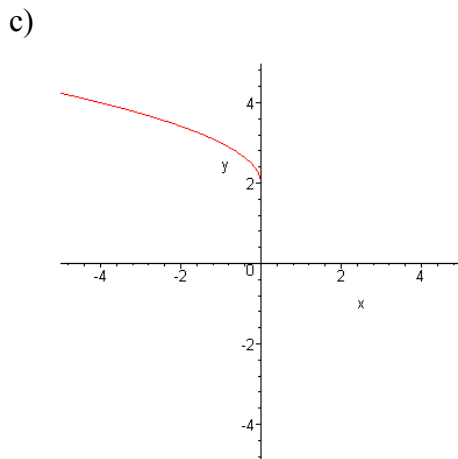
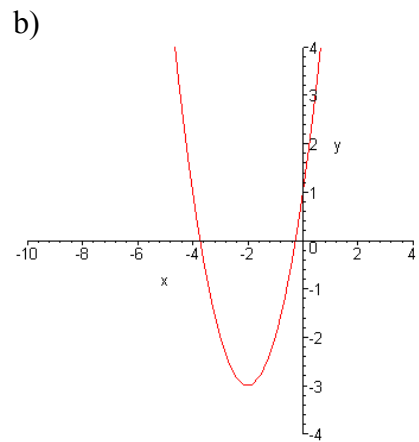
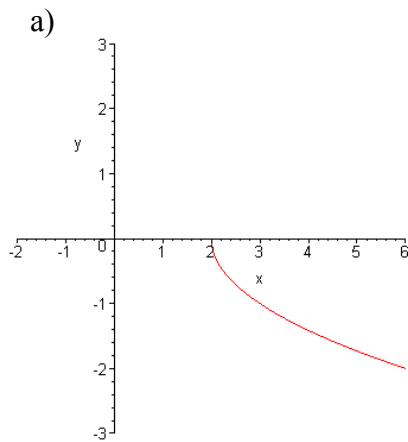
Question 11: Describe the transformations needed to:

a) Go from $f(x) = |x|$ to $f(x) = |x + 4| - 2$.

b) Go from $g(x) = \sqrt{x}$ to $g(x) = -\sqrt{x - 5}$.

b) Go from $g(x) = \sqrt{x}$ to $g(x) = \sqrt{-x} + 1$.

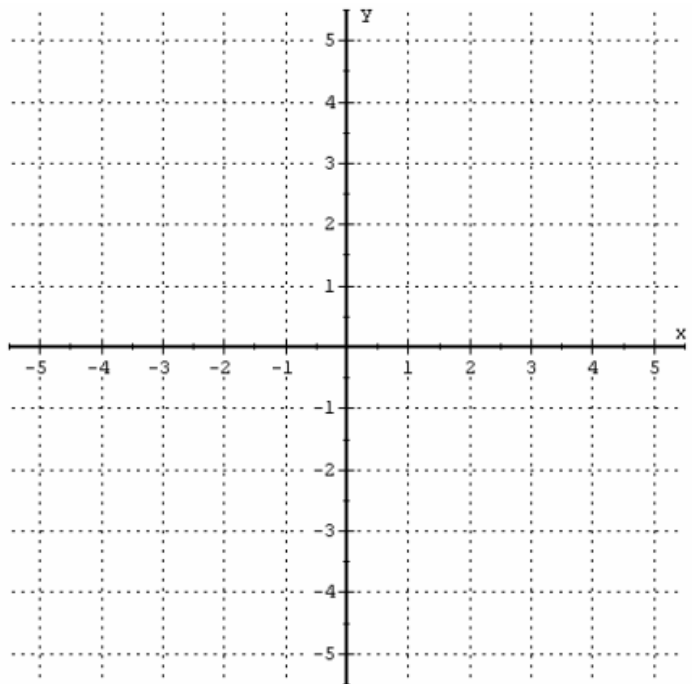
Question 12: Write the equations for the functions graphed below:



Question 13: $f(x) = -\sqrt{x-2} + 1$

- a) State the basic function.
- b) State the transformations.

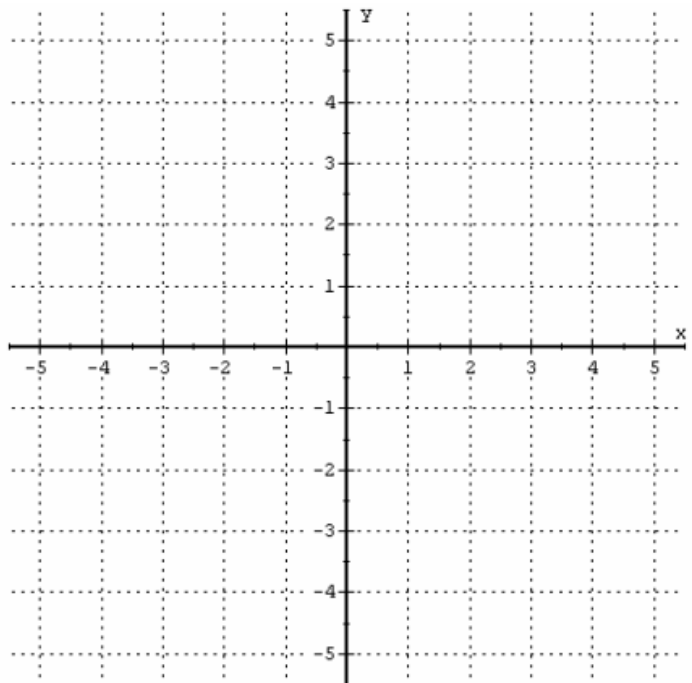
c) Graph the function, label the key point(s).



Question 14: $f(x) = -|x+4| - 2$

- a) State the basic function.
- b) State the transformations.

c) Graph the function, label the key point(s).



Question 16: $f(x) = -(x+5)^2$

a) State the basic function.

b) State the transformations.

c) Graph the function,
label the key point(s).

