

PreCalculus
Writing Assignment

Name _____

Compare and contrast the graphs of $f(x) = \log_2 x$ to $f(x) = -3\log_2\left(\frac{1}{2}x - 2\right) + 3$.

Rewrite the parent function in exponential form:

Rewrite the equation:

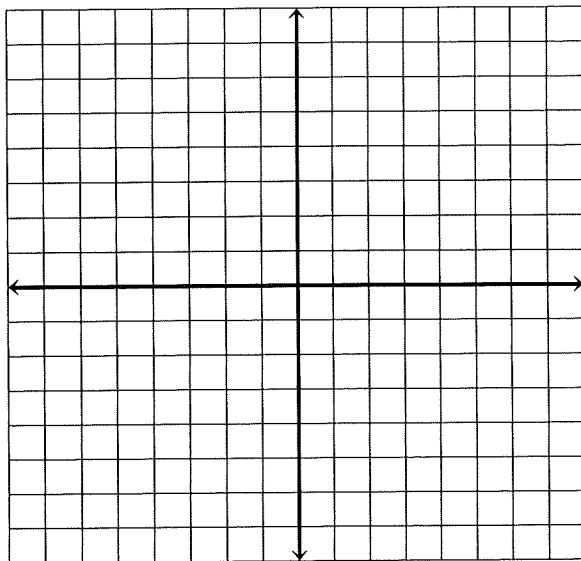
List the transformations:

List how it mathematically affects the x and y values:

- a.
- b.
- c.
- d.
- e.

- a.
- b.
- c.
- d.
- e.

| Type: | | | | | |
|-------|---|--|--|--|--|
| x | y | | | | |
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Directions: I am assessing your ability to convey an understanding of mathematical concepts through writing. You will write an essay on how to graph the functions listed above. You may use a bulleted outline when you write the paper, but your essay needs to be written in paragraph form. This assignment will be graded as a quiz and will be factored into the assessment component of your course grade, which is weighted as 90% of your quarter grade.

Topic: How to graph a logarithmic function without using a graphing calculator. Describe all of the transformations discussed in class.

Compare and contrast the graphs of $f(x) = \log_2 x$ to $f(x) = -3\log_2\left(\frac{1}{2}x - 2\right) + 3$

Grading:

I will show you the rubric before you begin writing, but an overview of what I'll be looking for is as follows:

- inclusion of an introduction/conclusion** (can be 1-2 sentences at the beginning and end of the paragraph)
- content**- use of vocabulary (vertical or horizontal stretch or compression, reflection over the x or y axis, Vertically up/down/left/right, etc), and clarity of explanation, discussion of each topic listed in prompt
- grammar**- spelling, complete sentences, proper punctuation, NO personal pronouns (you, I, my)
- organization**- discussion clearly flows from one topic to the next, makes use of transitional phrases

| | Advanced (4) | Proficient (3) | Partially Proficient (2) | Not Proficient (1) | Content Specific Requirements |
|---|--|--|--|---|--------------------------------------|
| Introduces a topic and Concludes a topic | Topic is clearly identified with an engaging topic sentence/thesis/claim and effectively previews what is to come. Provides an excellent concluding statement | Topic is clearly identified with topic sentence/thesis/claim and adequately previews what is to come. Provides a clear concluding statement | Topic sentence/thesis/claim is present, but it lacks focus. A concluding statement is present but lacks focus | Topic is not obvious, and barely provides a focus. A concluding statement is not obvious and barely provides a focus | |
| Content | The response provides a comprehensive and focused understanding of the information which is strongly maintained throughout. The student uses several examples to inform the reader | The response provides an adequate understanding of the information important to the topic. The student uses examples to support the information | The response provides uneven or minimal information to support the topic. Limited use of outside sources are weakly integrated | The response provides limited or no information to support the topic. There is almost no use of sources or outside information to inform the reader | |
| Organization | The response has a clear and effective organizational structure that has a logical progression of ideas from beginning to end. | The response has an adequate organizational structure and a sense of progression from the beginning to end, though there may be minor flaws and some ideas are loosely connected | The response has an inconsistent organizational structure, an uneven progression and flaws are evident | The response has limited or no progression of organizational structure | |
| Mechanics | The response follows requirements for response and is free of errors | The response adequately meets requirements for response | The response has an inconsistent use requirements of mechanics | The response has frequent errors. Lacks command of conventions | □ domain specific vocab. |
| Total | | | | | |