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You should be able to describe the transformations (without graphing them) based on the patterns you have observed during class.

Describe all the transformations.

1.  $f(x) = x - 10$

2.  $f(x) = 2(4)^x$

3.  $f(x) = -x + 7$

4.  $f(x) = 3x - 2$

5.  $f(x) = -(3)^x - 5$

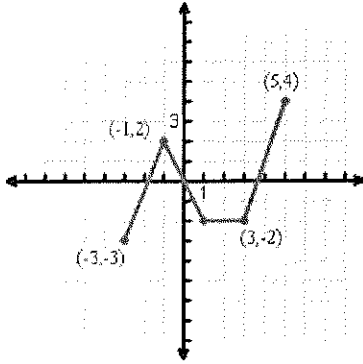
6.  $f(x) = \frac{1}{3}(2)^x - 4$

7.  $f(x) = -4(2)^x + 8$

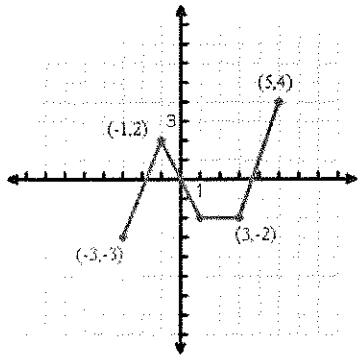
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8. Write the exponential function that would result in a translation of 2 units left, 3 units down and a reflection across x-axis from the parent graph  $y = 2^x$ .

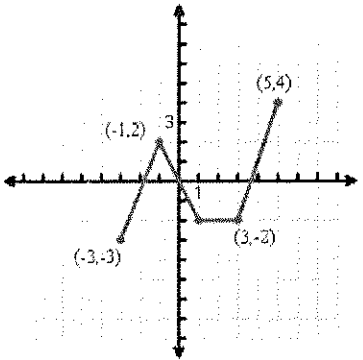
9) Graph  $f(x) + 2$  on the graph, and find its domain and range.



10) Graph  $-f(x) - 4$  on the graph, and find its domain and range.



11) Graph the function  $2f(x)$  on the graph and find its domain and range.



12) Graph the function  $2f(x) - 2$  on the graph and find its domain and range.

