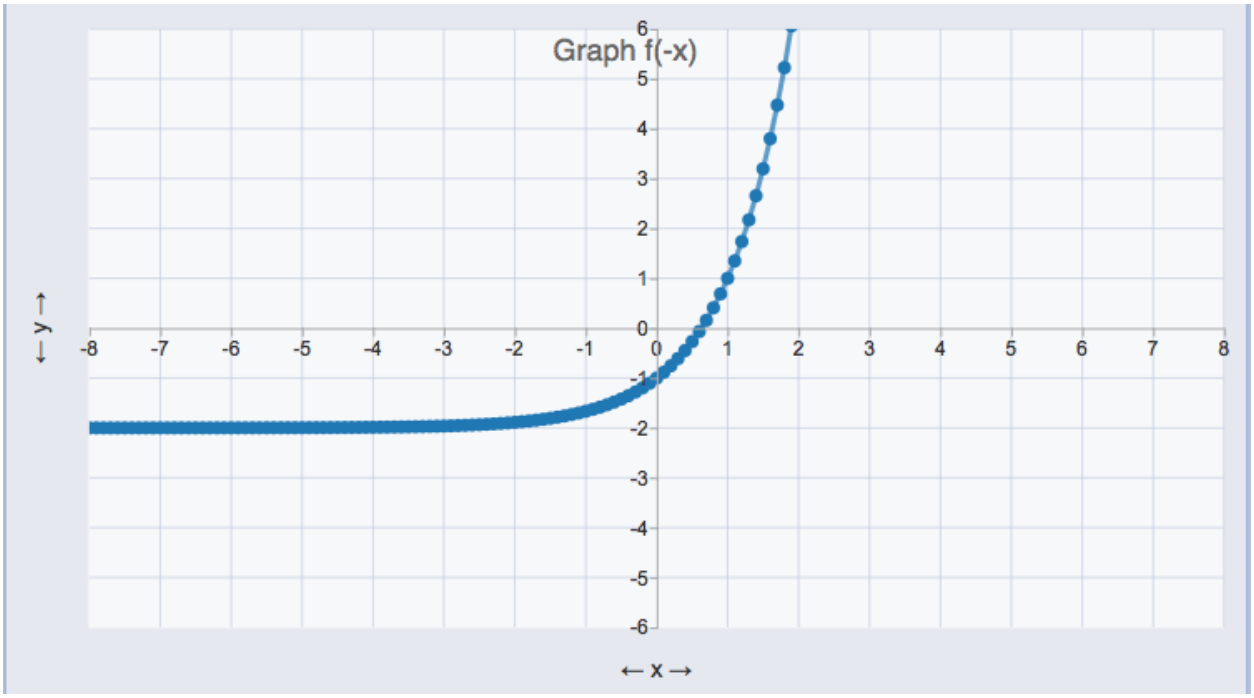
Reflections 2 Functions Assessment

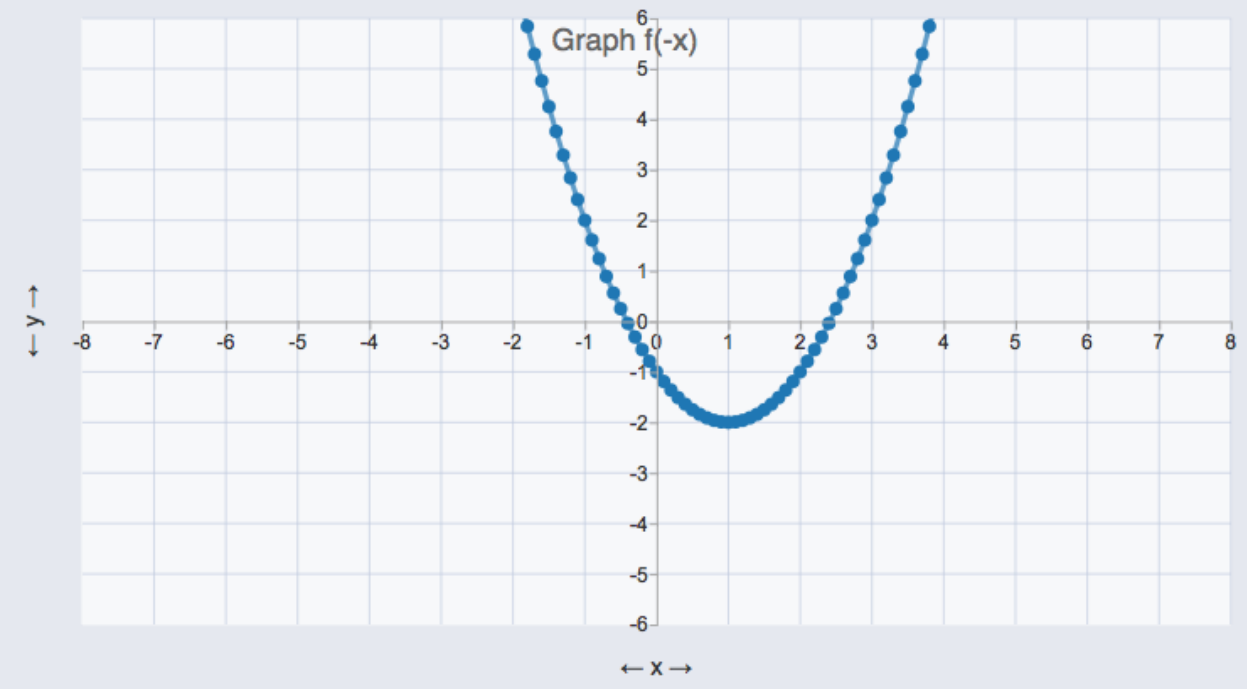
Name:_____

Date:_____

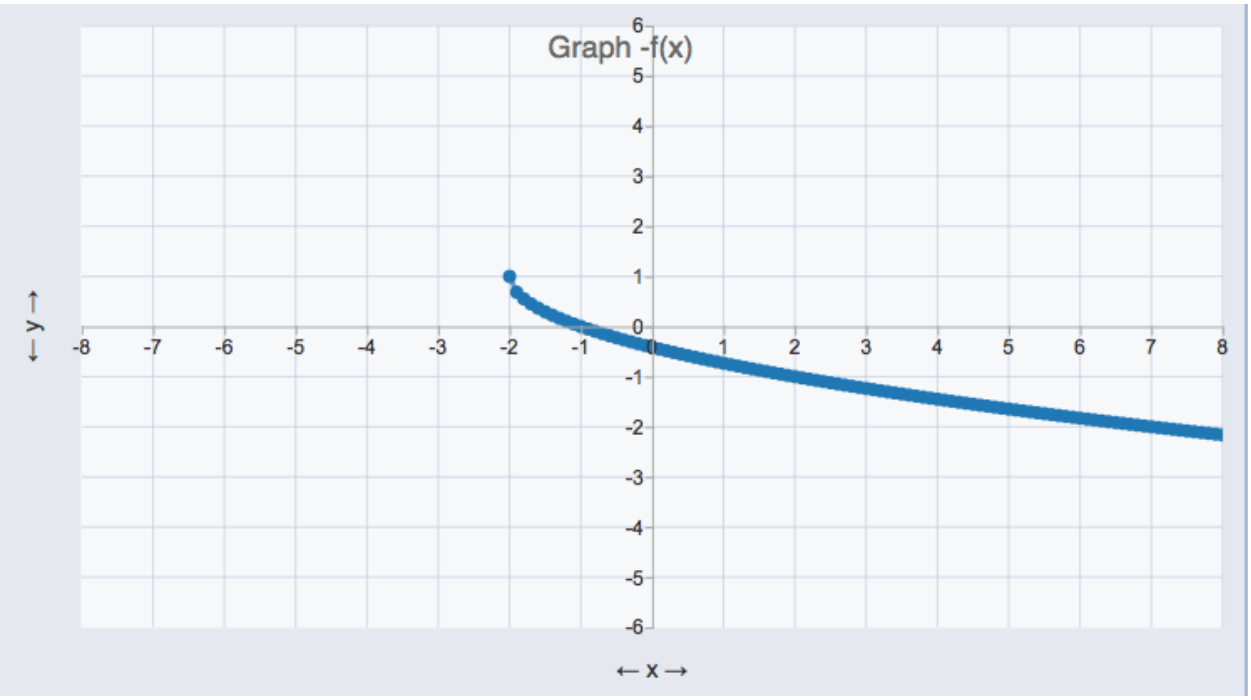
1. The coordinate plane below contains the graph of f(x). On that same coordinate plane draw f(-x).



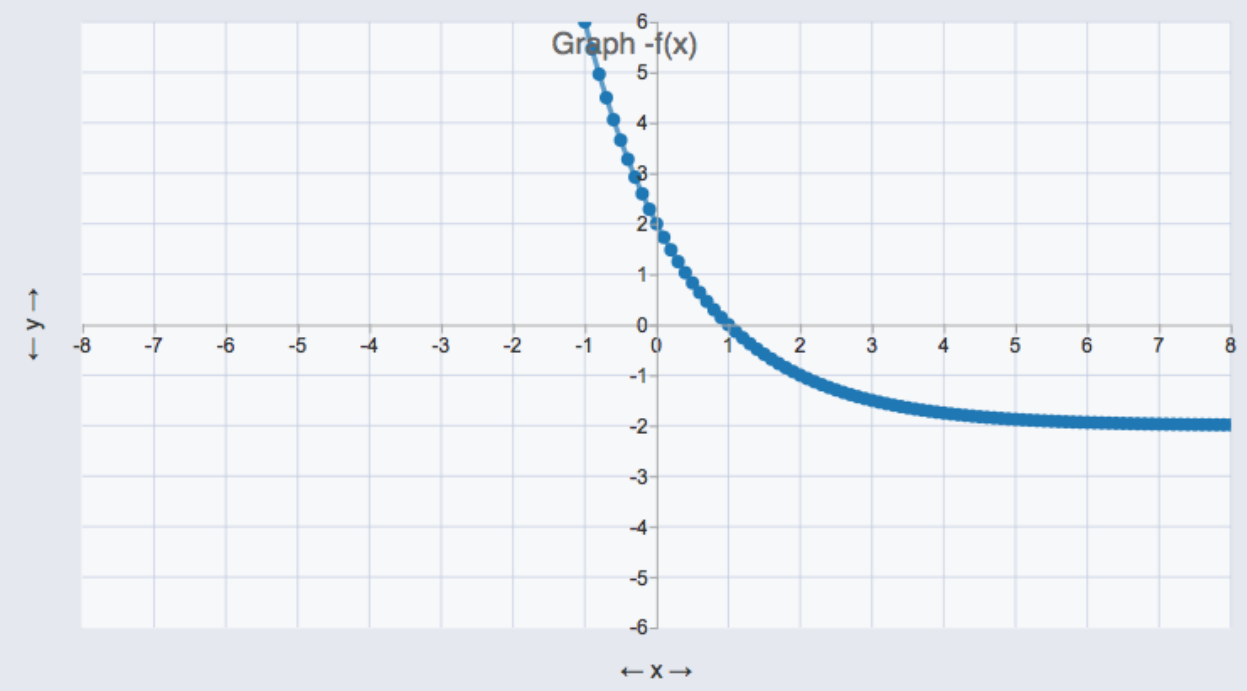
2. The coordinate plane below contains the graph of f(x). On that same coordinate plane draw f(-x).



3. The coordinate plane below contains the graph of f(x). On that same coordinate plane draw - f(x).



4. The coordinate plane below contains the graph of f(x). On that same coordinate plane draw - f(x).

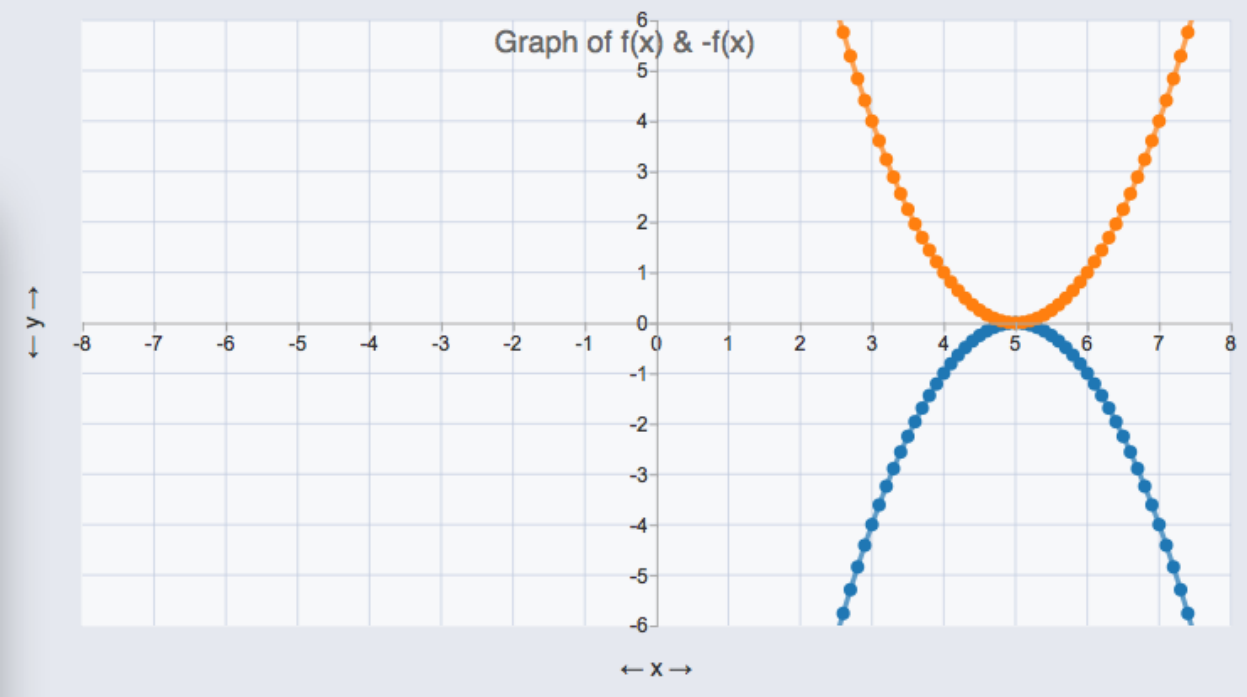


5. Explain why the graph of the reflection of $f(x) = x^2$ over the y-axis results in the identical graph?

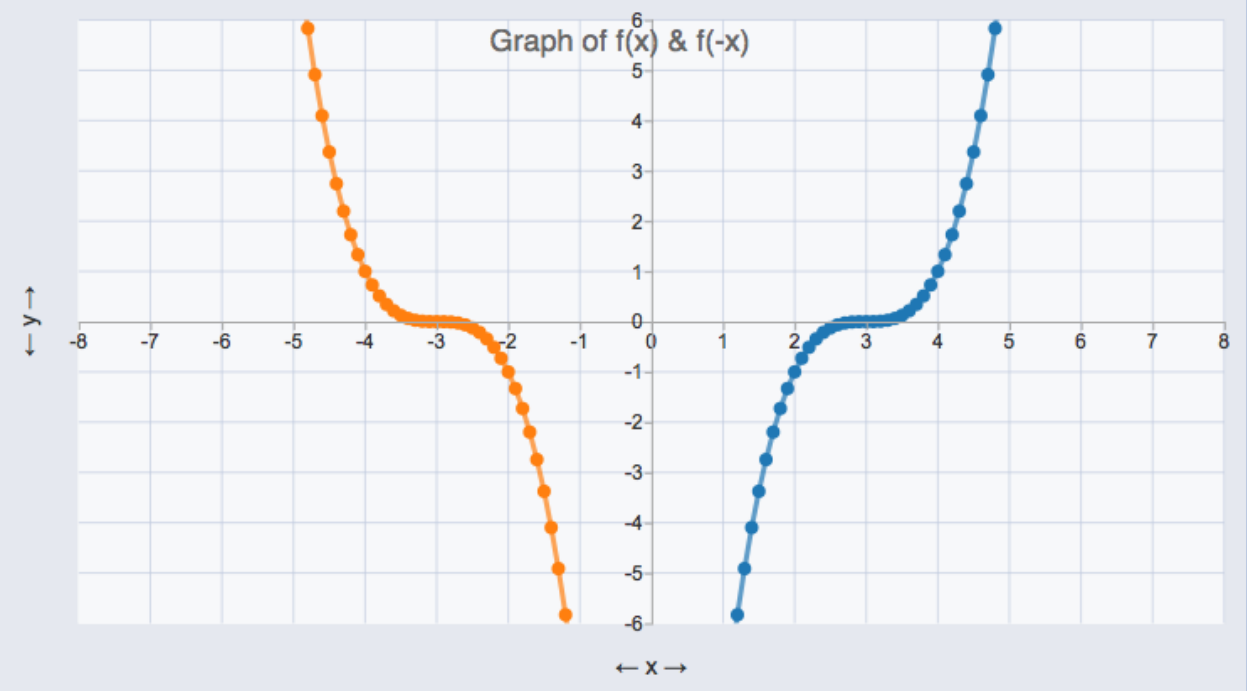
Challenge Question:

What are the equations of the graphs represented in each set of graphs?

a.

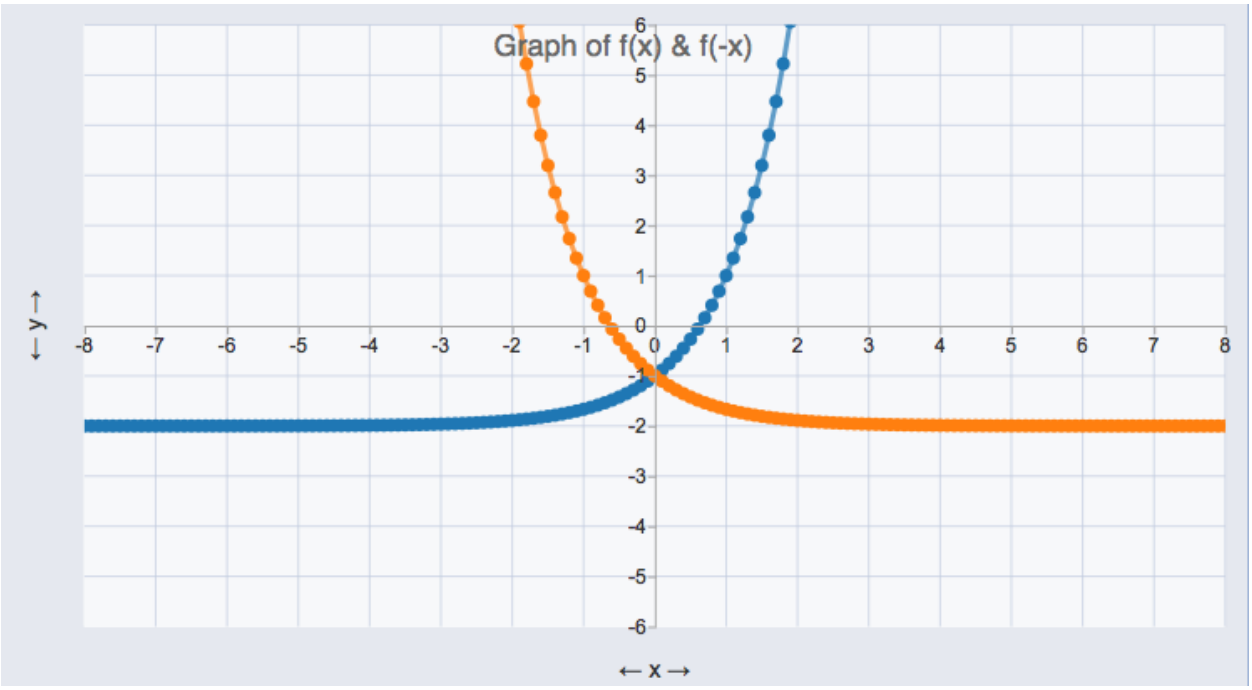


b.

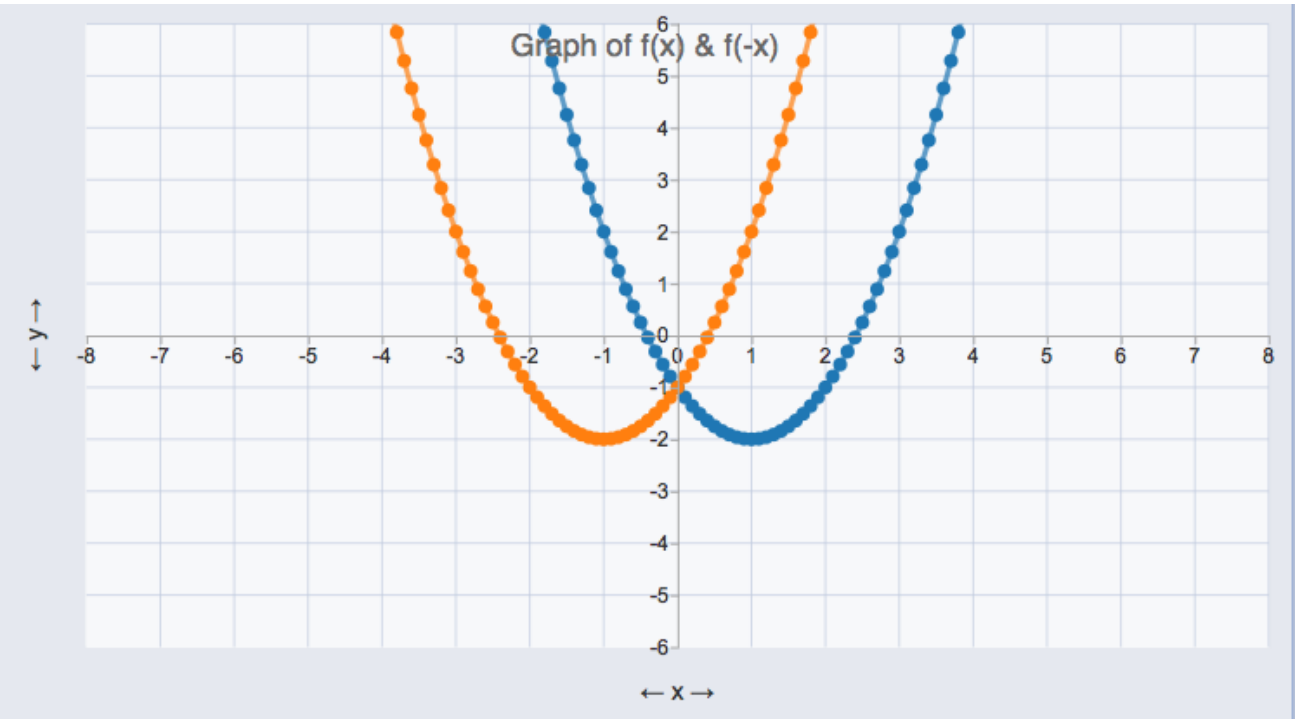


Answer Key:

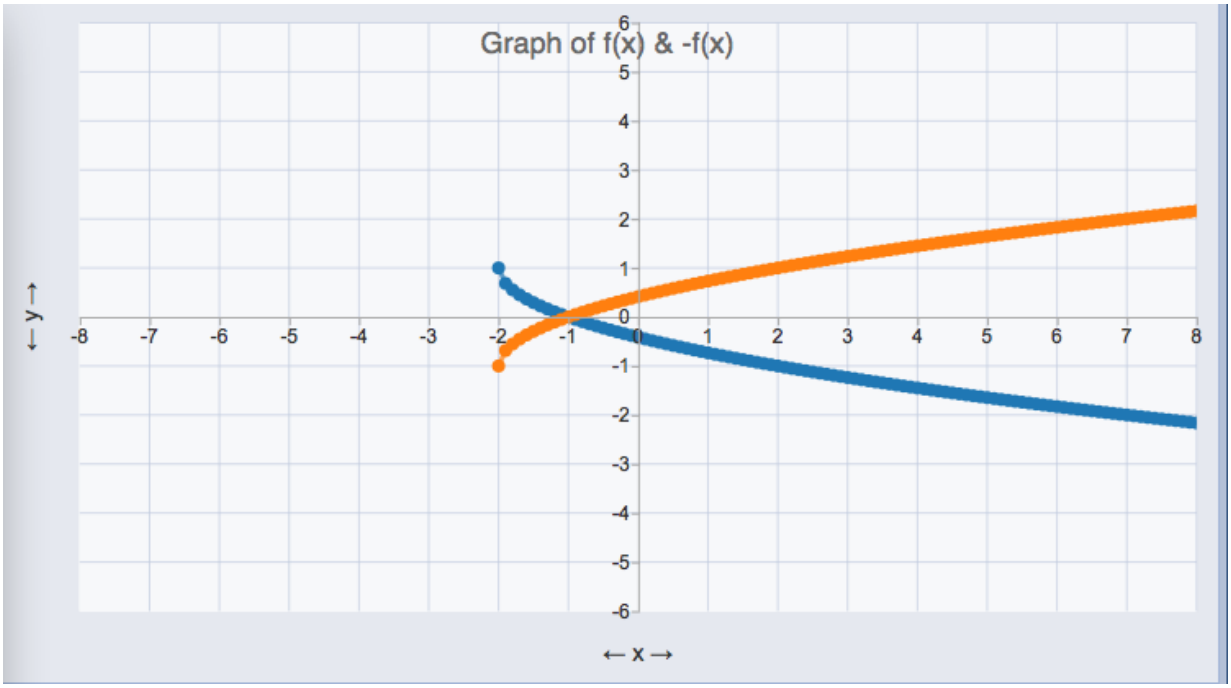
1.



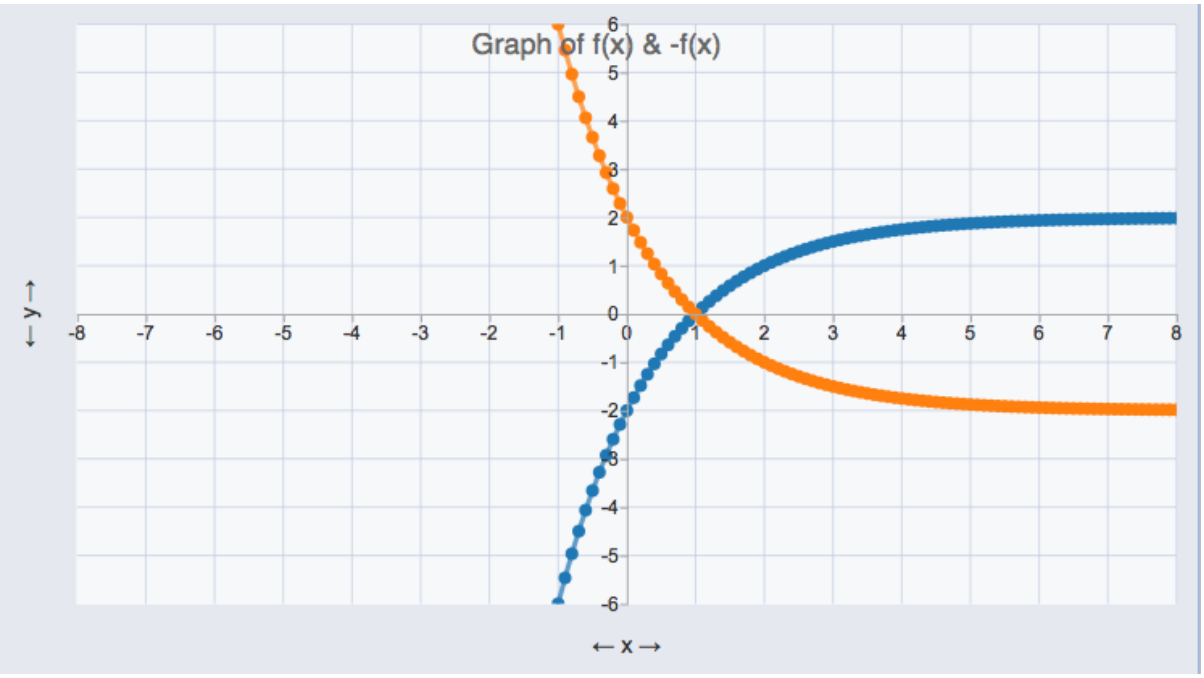
2.



3.



4.



5. When reflecting f(x) over the y-axis the resulting function, $f(-x) = (-x)^2$, can be simplified to $f(-x) = x^2$. A graphical explanation would include the fact that $f(x) = x^2$ is symmetric about the y-axis. Since the graphs of f(x) and f(-x) must be symmetric about the y-axis any graph which is symmetric about the y-axis will have equivalent algebraic expressions for f(x) and f(-x).

<u>Challenge Answers:</u>

a. $f(x) = (x - 5)^2$ and $f(-x) = (x + 5)^2$ or $f(-x) = (-x - 5)^2$

b. $f(x) = (x - 3)^3$ and $f(-x) = (-x - 3)^3$