Using Horizontal and Vertical Flips

Quick Review	
When x is replaced with $-x$, the graph of $y = f(x)$ is flipped across the y-axis.	If the function $y = x^2 - 2x$ is flipped across the y-axis, the new equation is $y = x^2 + 2x$
When y is replaced with $-y$, the graph of $y = f(x)$ is flipped across the x-axis.	If the function $y = x^2 - 2x$ is flipped across the x-axis, the new equation is $-y = x^2 - 2x$, or $y = -x^2 + 2x$

Problems

1. What is the equation of the function formed by flipping $y = x^2 + x$ across the x-axis?

2. What is the equation of the function formed by flipping $y = 2x - 3$

   a) across the x-axis? b) across the y-axis? c) across both axes

3. What is the equation of the function formed by flipping $y = |x| + 2x$

   a) across the x-axis? b) across the y-axis? c) across both axes

4. What is the equation of the function formed by flipping $y = 2e^{-x} - \frac{1}{x}$

   a) across the x-axis? b) across the y-axis? c) across both axes

5. The graph below is some function $y = f(x)$. Sketch the graphs of

   a) $y = f(-x)$ b) $y = -f(x)$ c) $y = -f(-x)$