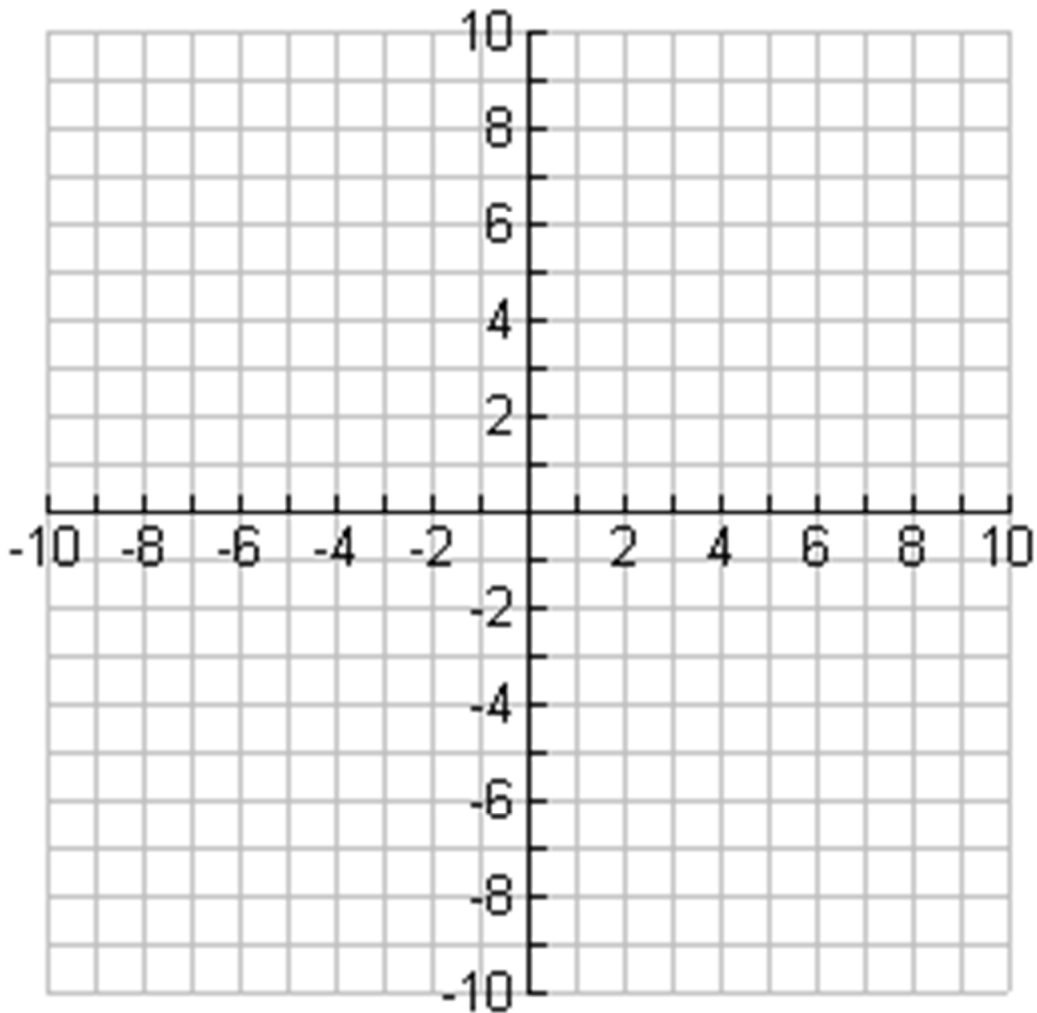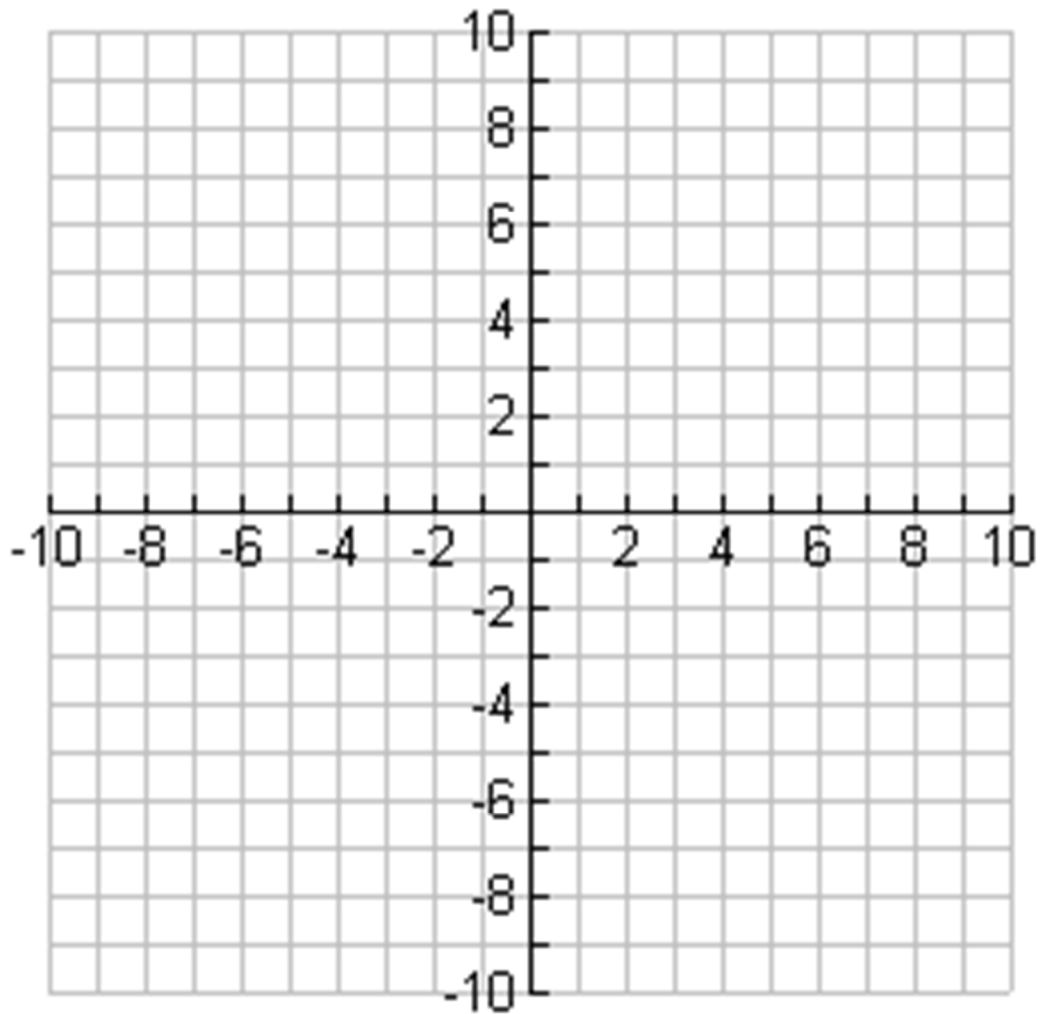**2.2 Radical Functions and Transformations:**

To determine how functions $y = f(x)$ and $y = \sqrt{f(x)}$ are related, we can observe how the square root function affects the *y-values*.
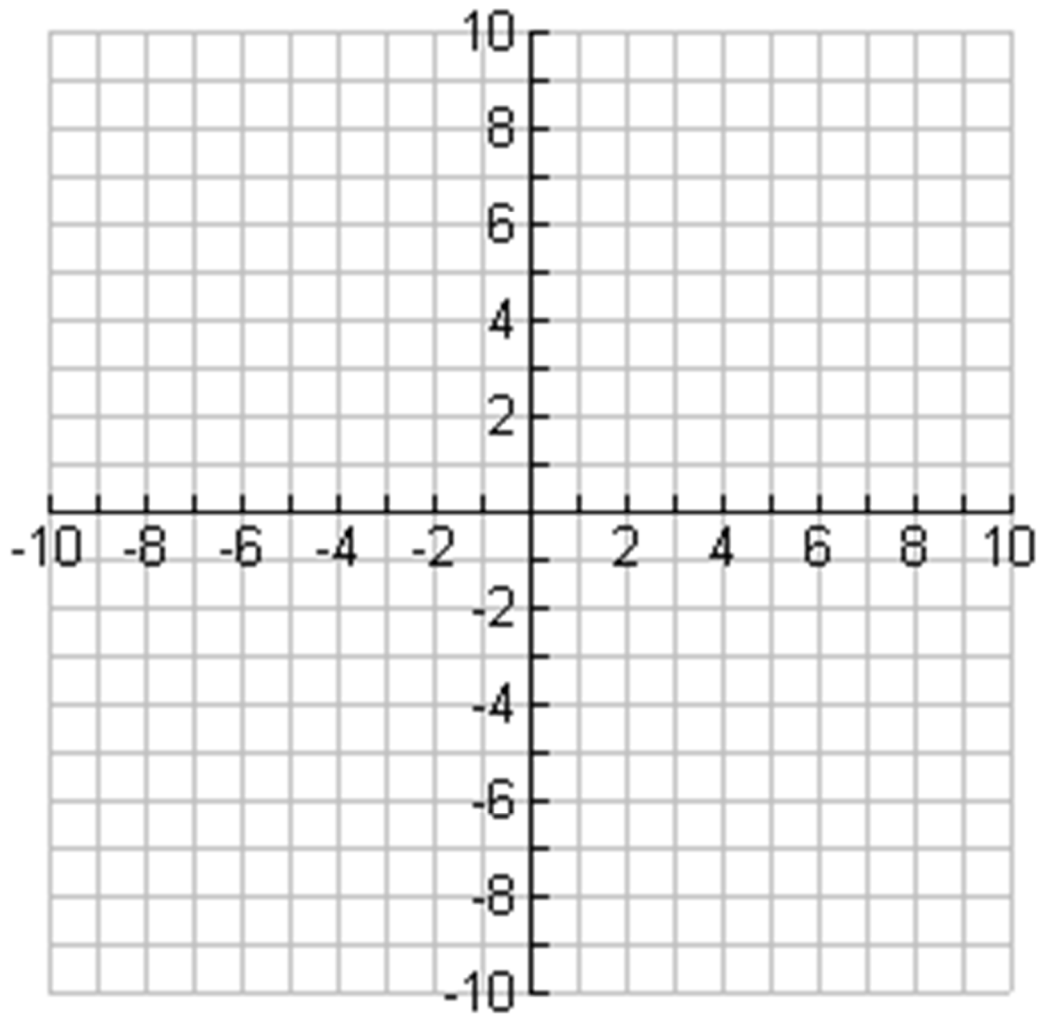
Example 1: Given $f(x) = 4 - 2x$, graph $y = f(x)$ and $y = \sqrt{f(x)}$ using a table of values.
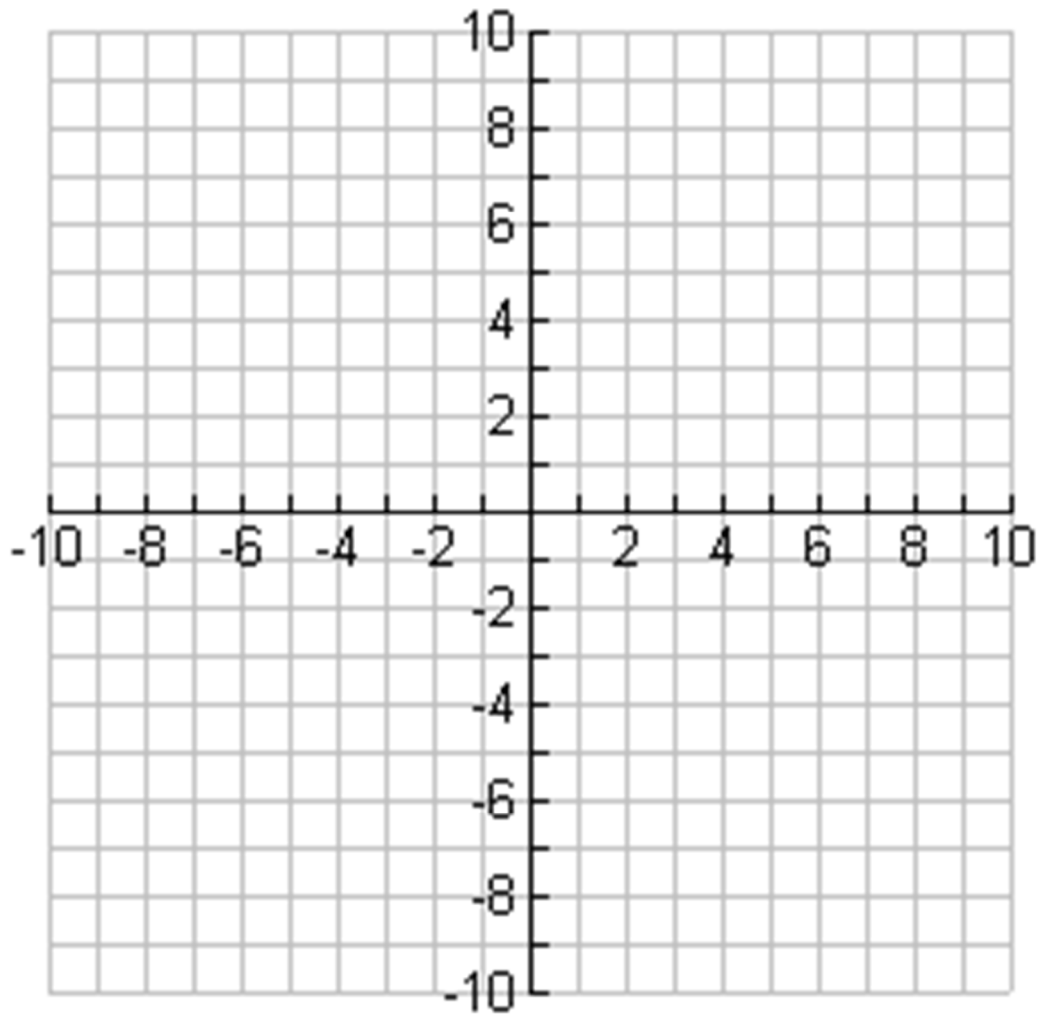
Example 2: Given $f(x) = x - 2$, graph $y = f(x)$ and $y = \sqrt{f(x)}$ by using the graph of $y = f(x)$. State the domain and range of the square root function.

Example 3: Given $f(x) = x^2 - 4$, graph $y = f(x)$ and $y = \sqrt{f(x)}$ by using the graph of $y = f(x)$. State your domain and range of the square root function.
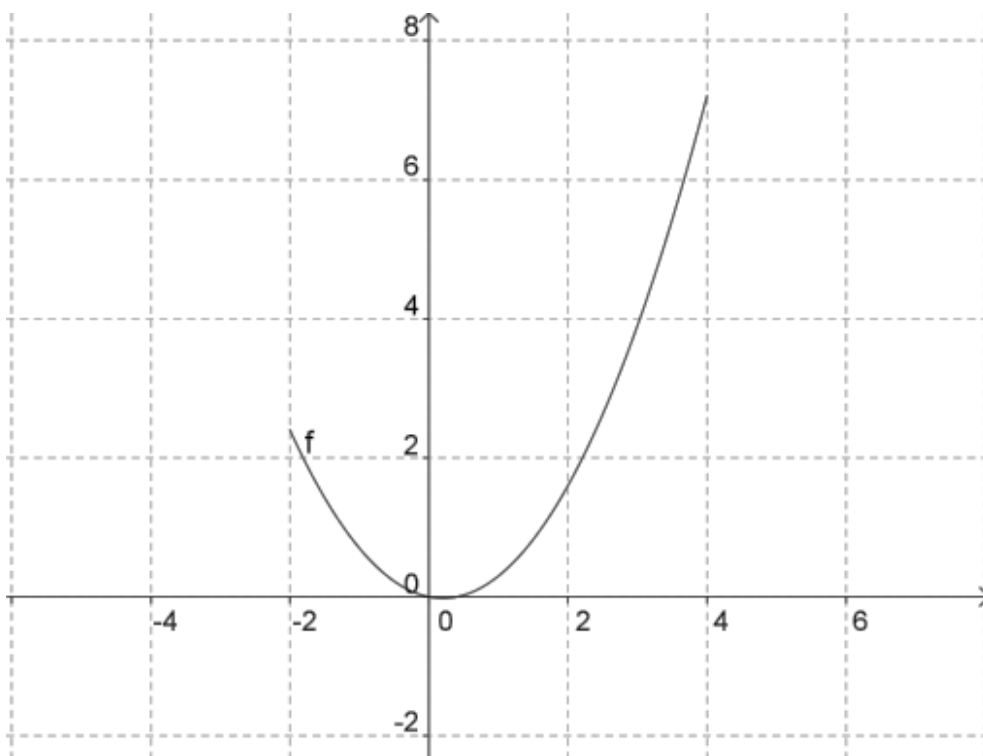
Try: Given $f(x) = x^2 - 2x - 8$, graph $y = f(x)$ and $y = \sqrt{f(x)}$ by using the graph of $y = f(x)$. State your domain and range of the square root function.

Example 4: Given $f(x) = x^2 - 20x + 75$, Determine the domain and range of the function $y = \sqrt{f(x)}$ analytically.

Example 5: Given the function:

Graph the square root function, $y = \sqrt{f(x)}$

p86: 1-10