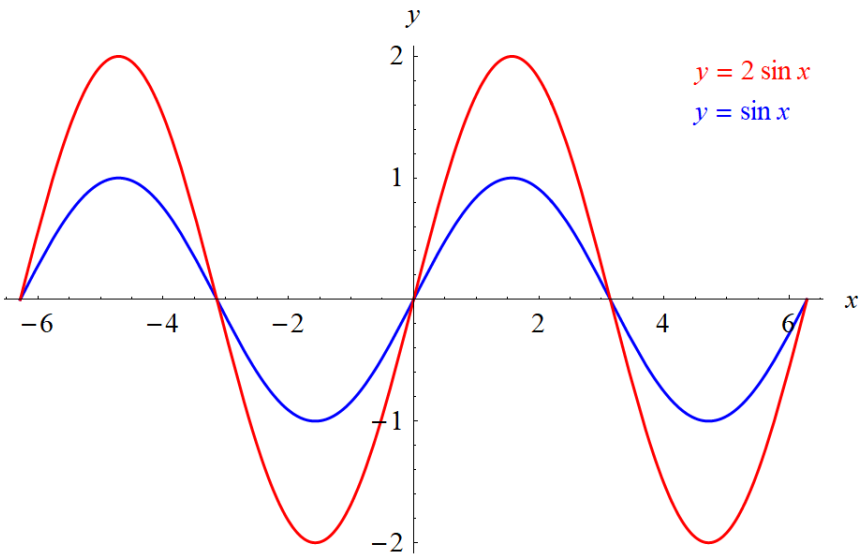
Exercise 8

(a) How is the graph of $y = 2\sin x$ related to the graph of $y = \sin x$? Use your answer and Figure 6 to sketch the graph of $y = 2\sin x$.

(b) How is the graph of $y = 1 + \sqrt{x}$ related to the graph of $y = \sqrt{x}$? Use your answer and Figure 4(a) to sketch the graph of $y = 1 + \sqrt{x}$.

Solution

The graph of $y = 2\sin x$ is the same as the graph of $y = \sin x$ but vertically stretched by a factor of 2 as illustrated below.



The graph of $y = 1 + \sqrt{x}$ is the same as the graph of $y = \sqrt{x}$ but translated up by 1 unit as illustrated below.