## 5-3 Additional Practice

Graphing Radical Functions

Graph the following functions, then state the domain and range. Is the function increasing or decreasing?

1. $f(x)=\sqrt{x-3}$

2. $f(x)=\sqrt[3]{x+2}$

3. Graph $f(x)=\sqrt{x}$ and $g(x)=\frac{1}{3} \sqrt{x-2}-4$. What transformations of the graph of $f$ produce the graph of $g$ ? What is the effect of the transformations on the domain and range of $g(x)$ ?

4. What transformations of the parent graph
$f(x)=\sqrt{x}$ produce the graph of $h(x)=\sqrt{9 x-4.5}-12$ ?

5. What radical function is represented in the graph?

6. The visibility, in miles, from a certain spot on a hillside can be calculated using the function $d=\sqrt{1.5 x}$, where $x$ is the height in feet above the valley floor. Fanon walks through elevations ranging from 9 feet to 36 feet above the valley. What are the minimum and maximum distances that she can see?
7. The surface area of a paper cup is defined by the function $S(h)=4 \pi \sqrt{16+h^{2}}$, where $h$ is the height of the cup. What are domain and range of $f(x)$ ?
