

For given real valued functions \textcolor{primary}{f(x)=\sqrt{x}} and \textcolor{secondary}{g(x)=x+2}. **Composition of function** is used in this case.  
  
Use given functions f(x) and g(x) as shown: (f\circ\text{g})(x)=f(\textcolor{mathSequenceLatex}{g(x)})

Replace g(x) with x:

(f\circ\text{g})(x)=\sqrt{\textcolor{mathSequenceLatex}{g(x)}}

g(x)=x+2

Put value of \textcolor{mathSequenceLatex}{g(x)=x+2} in above expression:

(f\circ\text{g})(x)=\sqrt{\textcolor{mathSequenceLatex}{x+2}}

Use given functions f(x) and g(x) as shown:  
(g\circ\text{f})(x)=g(\textcolor{mathSequenceLatex}{f(x)})

Replace f(x) with x:

(g\circ\text{f})(x)=\textcolor{mathSequenceLatex}{f(x)}+2

f(x)=\sqrt{x}

Put value of \textcolor{mathSequenceLatex}{f(x)=\sqrt{x}} in above expression:

(g\circ\text{f})(x)=\textcolor{mathSequenceLatex}{\sqrt{x}}+2

(f\circ\text{g})(\textcolor{tertiary}{x})=\sqrt{\textcolor{tertiary}{x}+2}

Put \textcolor{tertiary}{x=2} in (f\circ\text{g})(x) as shown below:

(f\circ\text{g})(\textcolor{tertiary}{2})=\sqrt{\textcolor{tertiary}{2}+2}

(f\circ\text{g})(\textcolor{tertiary}{2})=2

Solution of above expressions are:

(f\circ\text{g})(x)=\sqrt{\textcolor{secondary}{x+2}}

(g\circ\text{f})(x)=\textcolor{primary}{\sqrt{x}}+2

(f\circ\text{g})(\textcolor{tertiary}{2})=2