

```
\begin{tikzpicture}
  \begin{axis}[
    axis lines=middle,
    xmin=-4, xmax=5,
    ymin=-2, ymax=2,
    xtick={-4,-3,-2,-1,0,1,2,3,4,5},
    ytick={-2,-1,0,1,2},
    xlabel style={below right},
    ylabel style={above left},
  ]
    \addplot[domain=-2*pi:2*pi,smooth,red,thick] {sin(deg(
    \node[right] at (axis cs: 3,1) {$C_f$};
  \end{axis}
\end{tikzpicture}
```

