**Chapter 10, Problem 90.**

Fig. 10.132 shows a Wien-bridge network. Show that the frequency at which the phase shift between the input and the output signals is zero is $f = 0.5\pi RC$, and that the necessary gain is $\mathbf{A}_v = \mathbf{V}_o/\mathbf{V}_i = 3$ at that frequency.
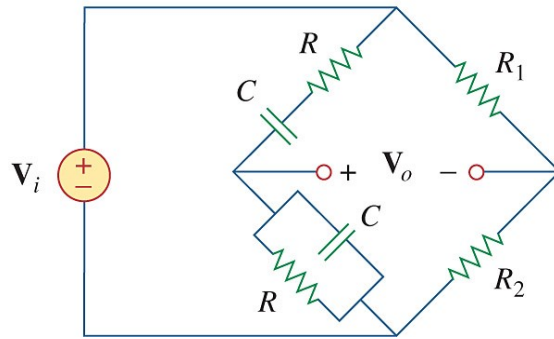


Figure 10.132
For Prob. 10.90.