



(a)

$$\begin{aligned}
 &Diff(wa, nt) \wedge Diff(wa, sa) \wedge \\
 &Diff(nt, q) \wedge Diff(nt, sa) \wedge \\
 &Diff(q, nsw) \wedge Diff(q, sa) \wedge \\
 &Diff(nsw, v) \wedge Diff(nsw, sa) \wedge \\
 &Diff(v, sa) \Rightarrow Colorable()
 \end{aligned}$$

$$\begin{aligned}
 &Diff(Red, Blue) \quad Diff(Red, Green) \\
 &Diff(Green, Red) \quad Diff(Green, Blue) \\
 &Diff(Blue, Red) \quad Diff(Blue, Green)
 \end{aligned}$$

(b)