

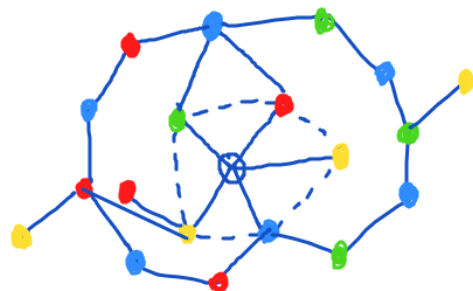
Unavoidable : $\{\cdot, -, \wedge, \vee, \times, \star\}$

Now consider \star

not
reducible



Kempe (1879)



Heawood (1890)