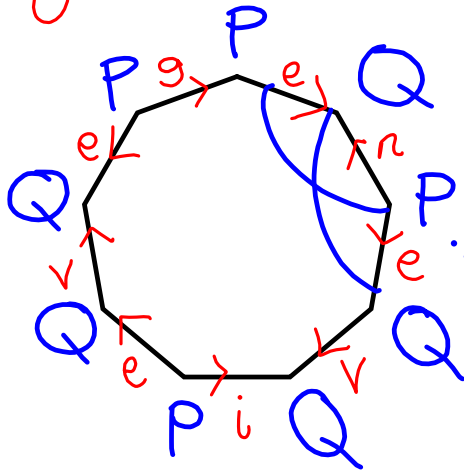


gen⁻¹e⁻¹v⁻¹r⁻¹e⁻¹

$$F=1 \quad \chi(s)=V-E+F$$

$$E=5 \quad =2-5+1$$

$$V=2 \quad \chi=-2$$



non-orientable: $\chi=2-g-b$

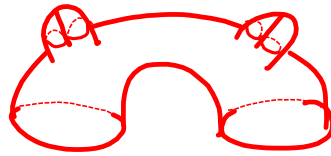
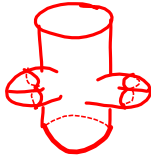
$$b=2$$

$$-2=2-g-2$$

$$g=2$$

non-orientable surface of genus 2 w/ 2 boundary components

a sphere w/ 2 crosscaps & 2 holes



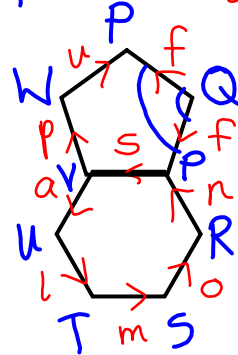
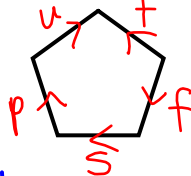
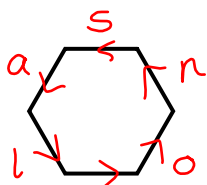
salmon

puffs

$$V=8 \quad \chi=V-E+F$$

$$\chi=1 \quad =8-9+2+2$$

$$=8-8+1+1$$

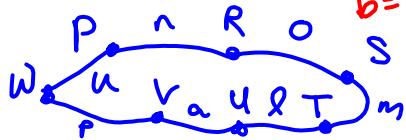


orientable: $\chi=2-2g-b$

$$b=1$$

$$1=2-2g-1$$

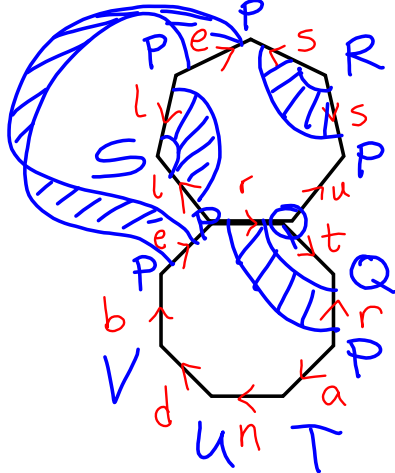
$$g=0$$



orientable surface of genus 0 w/ 1 boundary component
 Sphere w/ 0 handles & 1 hole



bertrand⁻¹

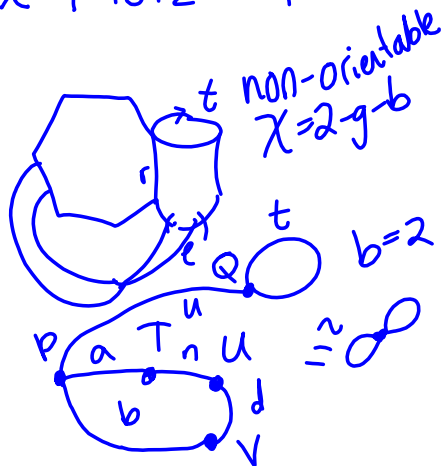


$$-1 = 2 - g - 2$$

$$1 = g$$



russell⁻¹
 $F=2, E=10, V=7$
 $\chi = 7 - 10 + 2 = -1$



non-orientable surface of genus 1 w/ 2 boundary components
 sphere w/ 1 crosscap & 2 holes

