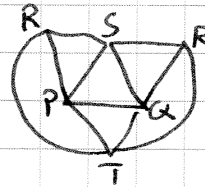
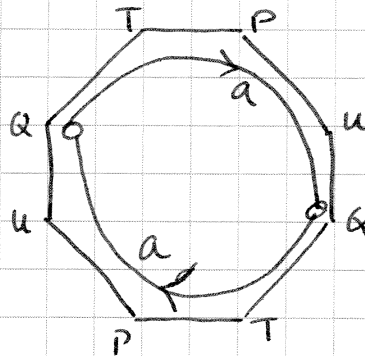
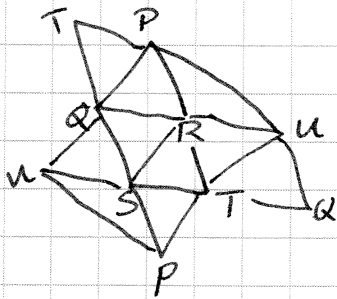


(5) (a) $PQS, QRS, PRS, PQT, QRT, PRT$
 Surface (a sphere)



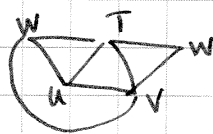
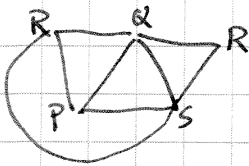
(b) Not a surface: PT occurs in three triangles: PQT, PTU, PST .

(c) $PQR, QRS, RST, PST, PQT, TRU, QTU, QSU, PSU, DRU$



Surface (RP^2)

(d) $PQS, TUV, QRS, TVW, PQR, TUW, PRS, UVW$



Surface (Two spheres)

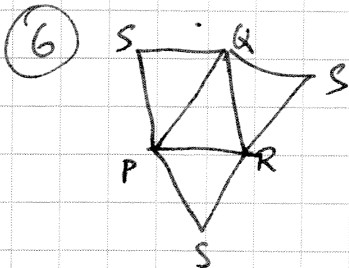
(e) $PQR, PRS, PQS, PUV, PTU, PTV$
 $SUV, QSV, QTV, QRT, RTU, RSU$

Not a surface: no cyclic ordering at vertex P

PQR, PRS, PQS - one cycle
 PUV, PTU, PTV - another

(f) Since the author told us that exactly 5 are surfaces, and we have already found two non-surfaces, this and (g) must be surfaces.

(g)



All triangles from $\{P, Q, R, S\}$ form a sphere. Yes, this is a surface.

All triangles from $\{P, Q, R, S, T\}$ do not form a surface: the edge PQ lies in more than two triangles: PQR, PQS, PQT .