1. $\Pi_{sname}((\sigma_{color\,=\,red}(Parts) \bowtie Catalog) \bowtie Supplier))$

2. $\Pi_{sid}(\sigma_{color\,=\,red\,\vee\,color\,=\,green}(Parts) \bowtie Catalog)$

3. $\Pi_{sid}\left(\sigma_{color\,=\,red}(Parts) \bowtie Catalog\right) \cup \Pi_{sid}\left(\sigma_{address\,=\,Paker\,Street}(Suppliers)\right)$

4. $\Pi_{sid}\left(\sigma_{color\,=\,red}(Parts) \bowtie Catalog\right) \cap \Pi_{sid}\left(\sigma_{color\,=\,gree}(Suppliers) \bowtie Catalog\right)$

5. $\Pi_{sid,\,pid}(Catalog)$

6. $\Pi_{sid,\,pid}(Catalog)/\Pi_{pid}\left(\sigma_{color\,=\,red}(Parts)\right)$

7. $\Pi_{sid,\,pid}(Catalog)/\Pi_{pid}\left(\sigma_{color\,=\,red\,\vee\,color\,=\,green}(Parts)\right)$

8. $\left(\Pi_{sid,\,pid}(Catalog)/\Pi_{pid}\left(\sigma_{color\,=\,red}(Parts)\right)\right) \cup \left(\Pi_{sid,\,pid}(Catalog)/\Pi_{pid}\left(\sigma_{color\,=\,gree}(Parts)\right)\right)$

9. $p(R1, Catalog)$

   $p(R2, Catalog)$

$\Pi_{R1.sid,\,R2.sid}\left(\sigma_{R1.pid\,=\,R2.pid\,\wedge\,R1.sid\,!=\,R2.sid\,\wedge\,R1.cost\,>\,R2.cost}(R1 \times R2)\right)$

10. $p(R1, Catalog)$

   $p(R2, Catalog)$

$\Pi_{R1.pid}\left(\sigma_{R1.pid\,=\,R2.pid\,\wedge\,R1.sid\,!=\,R2.sid}(R1 \times R2)\right)$