Practice work RA AND SQL

Consider the following schema:

Suppliers(sid INT, sname VARCHAR(30), address VARCHAR(45))

Parts (pid INT, pname VARCHAR(30), color VARCHAR(20))

Catalog (sid INT, pid INT, cost DECIMAL(9,2))

The key fields are underlined, and the domain of each field is listed after the field name. Therefore, *sid* is the key for Suppliers, *pid* is the key for Parts, and *sid* and *pid* together form the key for Catalog. The Catalog relation lists the prices charged for parts by Suppliers. Write the following queries in relational algebra and SQL queries:

1. Find the *name*s of suppliers who supply a red part.
2. Find the *sid*s of suppliers who supply some red or green part.
3. Find the *sid*s of suppliers who supply some red part or are at 221 Packer Street.
4. Find the *sid*s of suppliers who supply some red part and some green part.
5. Find the *sid*s of suppliers who supply every part.
6. Find the *sid*s, *snames* and number of parts supplied by every supplier.
7. Find the *sid*s of suppliers who supply every red part or a supplier that supply every green part.
8. Find pairs of *sid*s such that the supplier with the first *sid* charges more for some part than the supplier with the second *sid*.
9. Find the *pid*s of parts supplied by at least two different suppliers.
10. Find the *pid*s of the most expensive parts supplied by suppliers named Yosemite Sham.
11. Find the *pid*s of parts supplied by every supplier at less than $200. (If any supplier either does not supply the part or charges more than $200 for it, the part is not selected.)
12. Find the pids of parts and the number of suppliers that provide that pid.