

$$1) \Pi_{S\ name}(\sigma_{color=red}(Suppliers \bowtie [Catalog \bowtie Parts]))$$

$$2) \Pi_{sid}(Catalog \bowtie [\sigma_{color=red \ || \ color=green}(Parts)])$$

$$3) \Pi_{sid}[Catalog \bowtie \sigma_{color=red}(Parts)] \cup \Pi_{sid}[\sigma_{address=211 \ Packer \ Street}(Suppliers)]$$

$$4) \Pi_{sid}[Catalog \bowtie \sigma_{color=red}(Parts)] \cap \Pi_{sid}[\sigma_{color=green}(Parts) \bowtie Catalog]$$

$$5) \Pi_{sid}[Catalog \div \Pi_{pid}(Parts)]$$

$$6) \Pi_{sid}[Catalog \div \Pi_{pid}(\sigma_{color=red}(Parts))]$$

$$7) \Pi_{sid}[Catalog \div \Pi_{pid}(\sigma_{color=red \ || \ color=green}(Parts))]$$

$$8) \Pi_{sid}(Catalog \div \Pi_{pid}[\sigma_{color=red}(Parts)]) \cup \Pi_{sid}(Catalog \div \Pi_{pid}[\sigma_{color=green}(Parts)])$$

$$9) \Pi_{sid, \ sid1}(\sigma_{pid=pid1 \ \&\& \ cost > cost1}[Catalog \times (p_{sid, pid, cost \rightarrow sid1, pid1, cost1}[Catalog])])$$

$$10) \Pi_{pid}(\sigma_{sid \neq sid1 \ \&\& \ pid=pid1}[Catalog \times (p_{sid, pid, cost \rightarrow sid1, pid1, cost1}[Catalog])])$$