1) Which are the top 3 relevant elements of the Solar System?

```
SELECT e.ENAME AS ELEMENT,
        QUANTIZE(SUM(pe.ELEMENTRATIO * sp.MASS), 0.01) AS "WEIGHT [M+]"
FROM Elements AS e
        INNER JOIN PlanetElements AS pe ON (e.idELEMENTS = pe.idELEMENTS)
        INNER JOIN StarPlanets AS sp ON (pe.PName = sp.PName)
GROUP BY e.ENAME
ORDER BY "WEIGHT [M+]" DESC LIMIT 3
```

2) At a maximum constant speed of 40.000 km/h, show how much time it would take for the Apollo 10 mission, to make a round trip from the earth to each of the other planets (table has distance from sun).

```
SELECT PNAME AS PLANET, QUANTIZE((ABS(DISTTOSUN * 150000000 -
        (SELECT DISTTOSUN * 150000000 FROM StarPlanets
        WHERE UPPER(PNAME) = 'EARTH')) * 2 / 40000 / 24), 1) AS "TRAVEL TIME [days]"
FROM StarPlanets WHERE UPPER(PNAME) <> 'SUN' AND UPPER(PNAME) <> 'EARTH'
ORDER BY "TRAVEL TIME [days]" DESC
```

3) Calculate the total mass of the solar system.

```
SELECT QUANTIZE((SUM(MASS) + (SELECT SUM(MASS) FROM Satellites)), 1)
AS "TOTAL MASS [M+]" FROM StarPlanets
```

4) Which planet has the minimum number of rotation days per revolution?

```
SELECT PNAME AS "PLANET WITH SHORTEST YEAR",
          QUANTIZE(ABS(SIDEREALP * 365 / ROTATIONP), 0.01) AS "DAYS/REVOLUTION"
FROM StarPlanets
WHERE ABS(SIDEREALP * 365 / ROTATIONP) =
        (SELECT MIN(ABS(SIDEREALP * 365 / ROTATIONP))
        FROM StarPlanets
        WHERE UPPER(PNAME) <> 'SUN')
```

5) Which planet has the largest ratio satellites' to (parent) planet mass?

```
SELECT sp.PNAME AS Planet,
        QUANTIZE(sp.MASS * 5972, 1) AS "PLANET MASS [E21 kg]",
        QUANTIZE(Y, 1) AS "SATELLITES MASS [E21 kg]",
        QUANTIZE((QUANTIZE(Y*100, 0.01)/QUANTIZE(sp.MASS * 5972, 0.01)), 0.01)
        AS "MASS RATIO [%]"
   FROM STARPLANETS AS sp
INNER JOIN
  (SELECT s.PNAME, SUM(s.MASS) AS Y
   FROM SATELLITES AS s
   GROUP BY s.PNAME) AS x
ON (sp.PNAME = x.PNAME)
ORDER BY "MASS RATIO [%]" DESC LIMIT 1
```