- `ST_Centroid({poly|mpoly})`

  Returns the mathematical centroid for the `Polygon` or `MultiPolygon` argument as a `Point`. The result is not guaranteed to be on the `MultiPolygon`.

  This function processes geometry collections by computing the centroid point for components of highest dimension in the collection. Such components are extracted and made into a single `MultiPolygon`, `MultiLineString`, or `MultiPoint` for centroid computation.

  `ST_Centroid()` handles its arguments as described in the introduction to this section, with these exceptions:

  - The return value is `NULL` for the additional condition that the argument is an empty geometry collection.
  - If the geometry has an SRID value for a geographic spatial reference system (SRS), an `ER_NOT_IMPLEMENTED_FOR_GEOGRAPHIC_SRS` error occurs.

```
mysql> SET @poly =
       ST_GeomFromText('POLYGON((0 0,10 0,10 10,0 10,0 0),(5 5,7 5,7 7,5 7,5 5))');
mysql> SELECT ST_GeometryType(@poly),ST_AsText(ST_Centroid(@poly));
+------------------------+-------------------------------------------+
| ST_GeometryType(@poly) | ST_AsText(ST_Centroid(@poly))             |
+------------------------+-------------------------------------------+
| POLYGON                | POINT(4.958333333333333 4.958333333333333) |
+------------------------+-------------------------------------------+
```

- `ST_ExteriorRing(poly)`

  Returns the exterior ring of the `Polygon` value *`poly`* as a `LineString`.

  `ST_ExteriorRing()` handles its arguments as described in the introduction to this section.

```
mysql> SET @poly =
       'Polygon((0 0,0 3,3 3,3 0,0 0),(1 1,1 2,2 2,2 1,1 1))';
mysql> SELECT ST_AsText(ST_ExteriorRing(ST_GeomFromText(@poly)));
+-------------------------------------------------+
| ST_AsText(ST_ExteriorRing(ST_GeomFromText(@poly))) |
+-------------------------------------------------+
| LINESTRING(0 0,0 3,3 3,3 0,0 0)                 |
+-------------------------------------------------+
```

- `ST_InteriorRingN(poly, N)`

  Returns the *`N`*-th interior ring for the `Polygon` value *`poly`* as a `LineString`. Rings are numbered beginning with 1.

  `ST_InteriorRingN()` handles its arguments as described in the introduction to this section.

```
mysql> SET @poly =
       'Polygon((0 0,0 3,3 3,3 0,0 0),(1 1,1 2,2 2,2 1,1 1))';
mysql> SELECT ST_AsText(ST_InteriorRingN(ST_GeomFromText(@poly),1));
+-------------------------------------------------+
| ST_AsText(ST_InteriorRingN(ST_GeomFromText(@poly),1)) |
+-------------------------------------------------+
| LINESTRING(1 1,1 2,2 2,2 1,1 1)                 |
+-------------------------------------------------+
```