WHAT IS CLAIMED IS:

1. A polishing method for polishing a wafer by use of a polishing apparatus including a chuck table rotatable in a state of holding the wafer and a polishing unit having a spindle to which a polishing tool for polishing the wafer held by a holding surface of the chuck table is mounted,

the polishing tool having a disk-shaped base and an annular polishing layer that is fixed to one surface of the base and that has an opening section being located at a central portion in a diameter direction of the base and having a predetermined diameter,

a maximum width of an effective polishing region of the polishing layer in a radial direction of the base being smaller than a radius of the wafer and the radius of the wafer being smaller than the diameter of the opening section,

the polishing method comprising:

a holding step of holding the wafer by the holding surface; and

a polishing step of polishing the wafer while rotating the polishing tool around the spindle in a state in which the wafer and the polishing tool are positioned in such a manner that a part of a peripheral edge of the

wafer protrudes from a periphery of the polishing layer and that a center of the wafer is located at the opening section of the polishing layer.

2. The polishing method according to claim 1, wherein, in the polishing step, the polishing tool and the wafer are moved relative to each other along a diameter direction of the polishing tool that passes through a center of one surface of the wafer.

3. A polishing tool comprising:

a disk-shaped base; and

an annular polishing layer that is fixed to one surface of the base and that has an opening section being located at a central portion in a diameter direction of the base and having a predetermined diameter,

wherein a maximum width of an effective polishing region of the polishing layer in a radial direction of the base is smaller than a radius of a wafer to be polished and the radius of the wafer is smaller than the diameter of the opening section, and a center of the wafer is located at the opening section of the polishing layer.

4. The polishing tool according to claim 3, wherein

a cylindrical opening is formed in the central

portion in the diameter direction of the base, and

the polishing layer includes a plurality of segment polishing pads.

5. The polishing tool according to claim 3, wherein

in the one surface of the base to which the polishing layer is fixed, a center of the base is not covered with the polishing layer and is exposed, and

the polishing layer includes a continuous annular polishing pad.

6. The polishing method according to claim 1, wherein

the annular polishing layer of the polishing tool includes a plurality of segment polishing pads, and

the polishing step includes polishing the wafer with the plurality of segment polishing pads.