

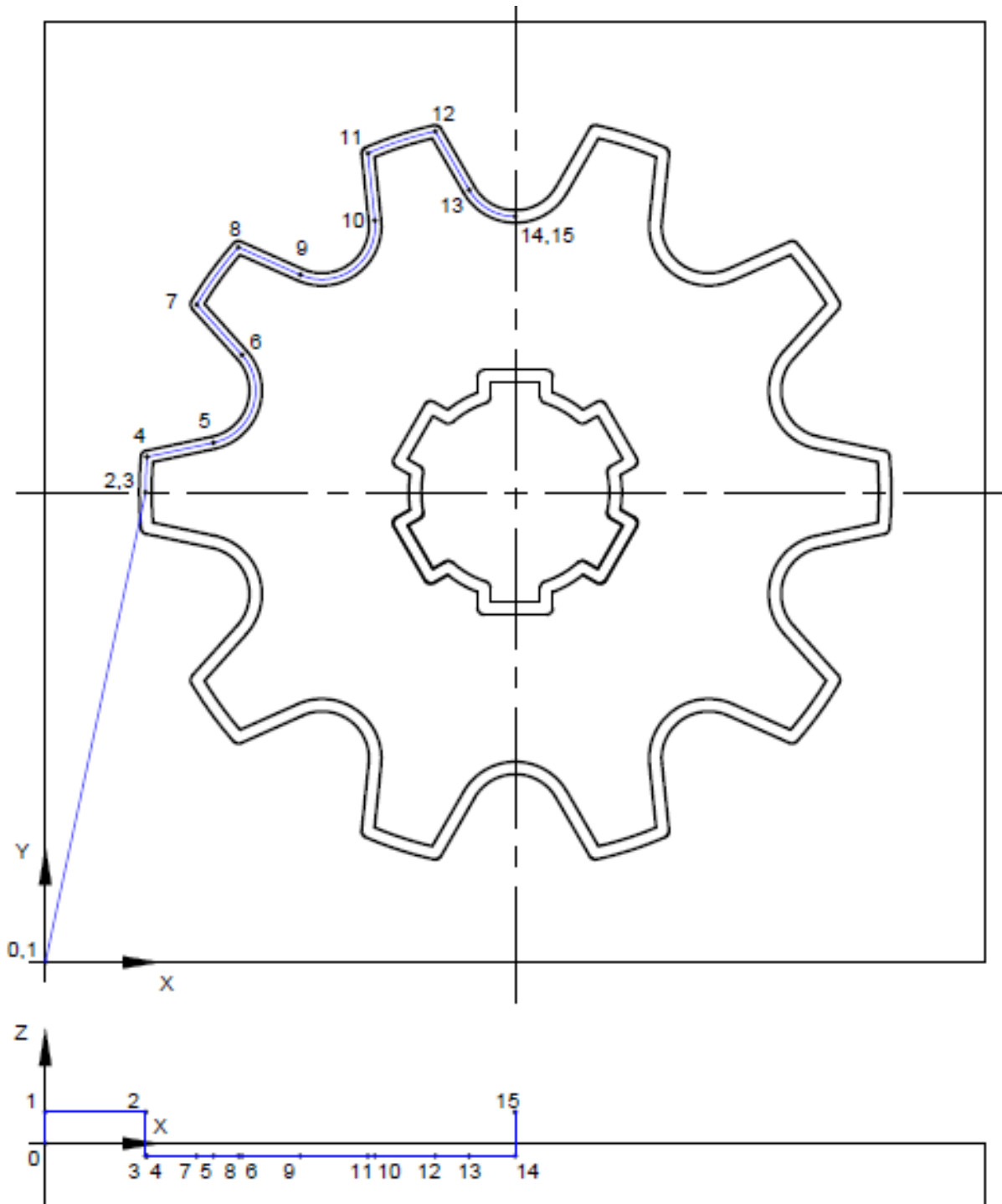
Field of education:  
**Mechanical engineering**

Professional qualification:  
**CNC operator**

Exercise:  
**Programming of CNC machine  
(solution)**

Variant:  
Task 37 – Sprocket 1.1.

Solution:

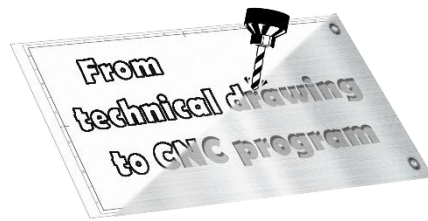


**Required written code that should be inserted into the control unit:**

```
G0 Z5  
X16 Y75  
G1 Z-2  
G2 X16,272 Y80,664 R59  
G1 X26,837 Y82,909  
G3 X31,386 Y96,911 R8,5  
G1 X24,159 Y104,937  
G2 X30,817 Y114,101 R59  
G1 X40,684 Y109,708  
G3 52,595 Y118,362 R8,5  
G1 X51,466 Y129,103  
G2 X62,239 Y132,603 R59  
G1 X67,639 Y123,594  
G3 X75 Y119 R8,5  
G1 Z5  
M30
```

**Explanation of the G-code:**

```
%Setting the coordinate system x=0, y=0, z=0; point 0  
G0 Z5 %Lifting of tool; point 1  
X16 Y75 %Positioning at the starting point; point 2  
G1 Z-2 %Tool entry into material; point 3  
G2 X16,272 Y80,664 R59 %Radial milling; point 4  
G1 X26,837 Y82,909 %Straight milling; point 5  
G3 X31,386 Y96,911 R8,5 %Radial milling; point 6  
G1 X24,159 Y104,937 %Straight milling; point 7  
G2 X30,817 Y114,101 R59 %Radial milling; point 8  
G1 X40,684 Y109,708 %Straight milling; point 9  
G3 52,595 Y118,362 R8,5 %Radial milling; point 10
```



G1 X51,466 Y129,103 %Straight milling; point 11

G2 X62,239 Y132,603 R59 %Radial milling; point 12

G1 X67,639 Y123,594 %Straight milling; point 13

G3 X75 Y119 R8,5 %Radial milling; point 14

G1 Z5 %Lifting of tool; point 15

M30 %End of program