

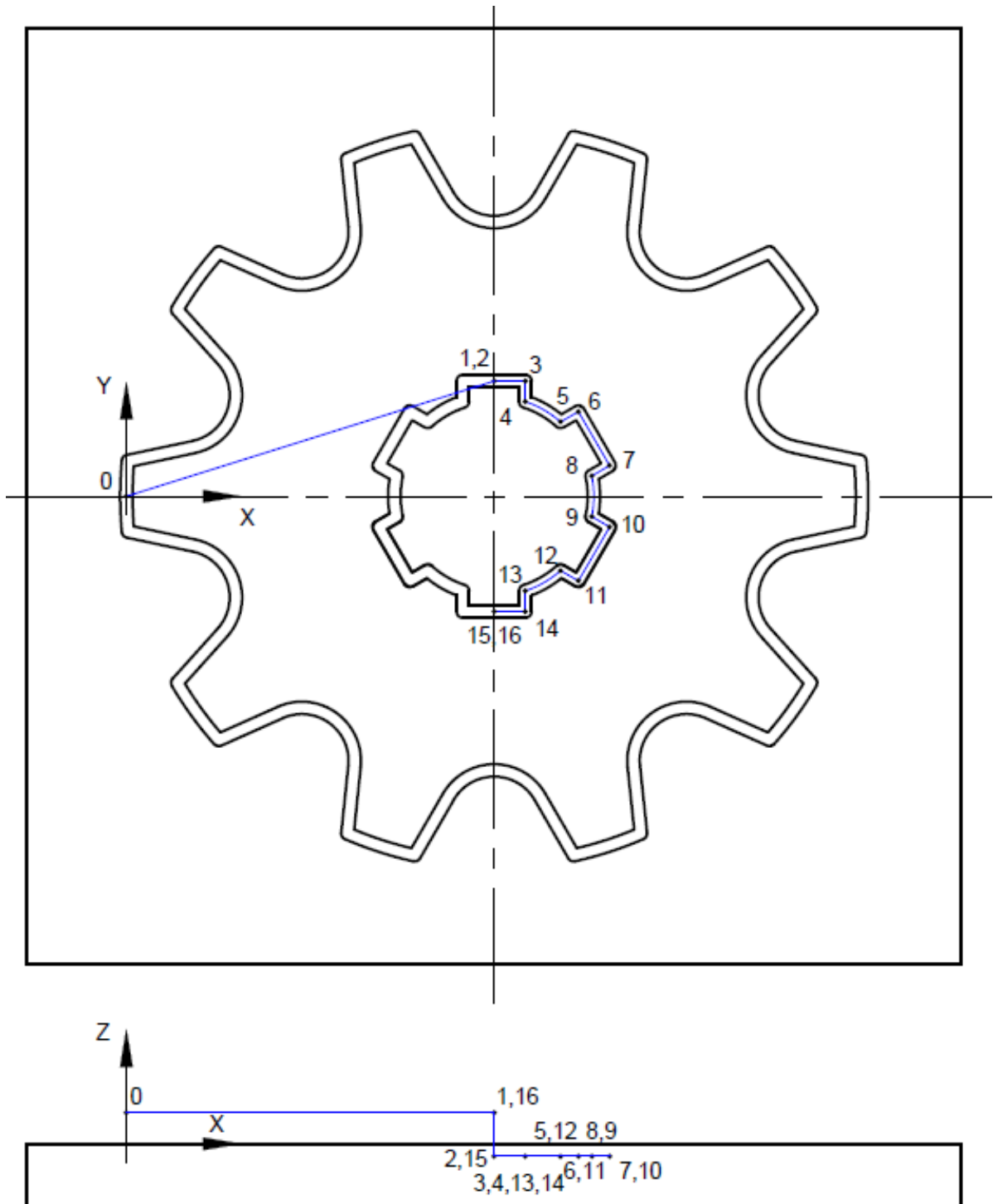
Field of education:
Mechanical engineering

Professional qualification:
CNC operator

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

Variant:
Task 41 – Sprocket 1.5.

Solution:

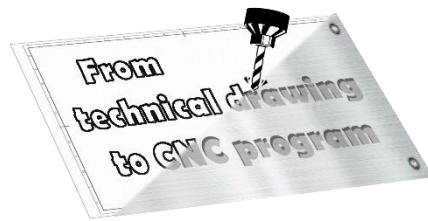


Required written code that should be inserted into the control unit:

```
G0 X59 Y18,5  
G1 Z-2  
X64  
Y15,199  
G2 X69,662 Y11,929 R16  
G1 X72,521 Y13,58  
X77,521 Y4,92  
X74,662 Y3,269  
G2 X74,662 Y-3,269 R16  
G1 X77,521 Y-4,92  
X72,521 Y-13,58  
X69,662 Y-11,929  
G2 X64 Y-15,199 R16  
G1 Y-18,5  
X59  
Z5  
M30
```

Explanation of the G-code:

```
%Setting the coordinate system x=0, y=0, z=5; point 0  
G0 X59 Y18,5 %Positioning at the starting point; point 1  
G1 Z-2 %Tool entry into material; point 2  
X64 %Straight milling; point 3  
Y15,199 %Straight milling; point 4  
G2 X69,662 Y11,929 R16 %Radial milling; point 5  
G1 X72,521 Y13,58 %Straight milling; point 6  
X77,521 Y4,92 %Straight milling; point 7  
X74,662 Y3,269 %Straight milling; point 8  
G2 X74,662 Y-3,269 R16 %Radial milling; point 9
```



G1 X77,521 Y-4,92 %Straight milling; point 10

X72,521 Y-13,58 %Straight milling; point 11

X69,662 Y-11,929 %Straight milling; point 12

G2 X64 Y-15,199 R16 %Radial milling; point 13

G1 Y-18,5 %Straight milling; point 14

X59 %Straight milling; point 15

Z5 %Lifting of tool; point 16

M30 %End of program