

Practical tasks for a mechanical engineering technician

General Information

Parts material: steel S355J2EN 10025-2.

Production program: 10000 parts per year.

Task.

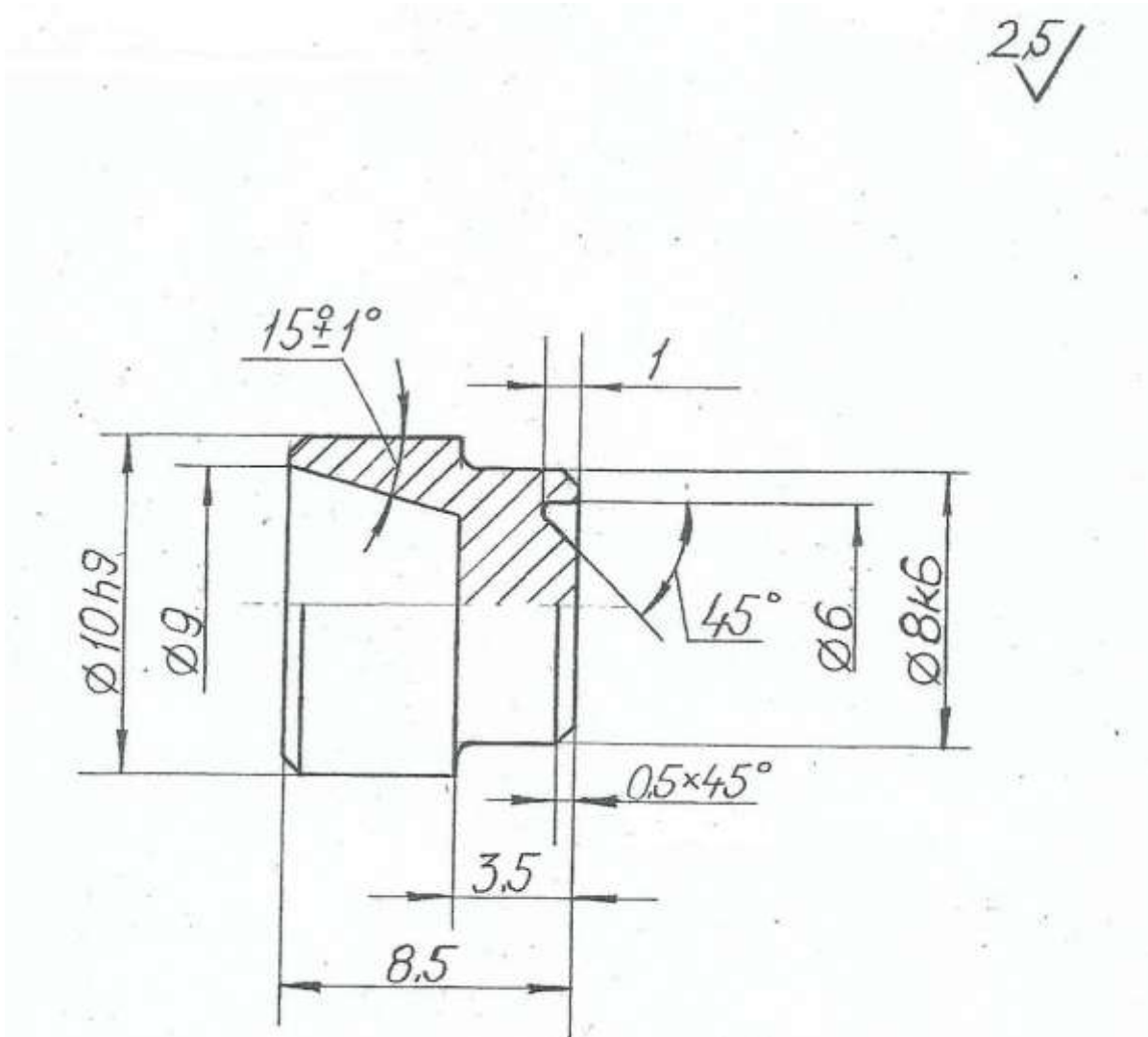
1. Compile the technological operations for processing the specified surface of the part.
2. Fill in the operations card (in the attachment).

Availability of catalogs of machine tools, devices, cutting tools and measuring instruments is desirable for the performance of the task, but access to Internet resources may also be sufficient for contestants. You also need a calculator for simple calculations (part mass, cutting mode, time). Use of AutoCAD, Solidworks or MasterCAM in operations design is preferred.

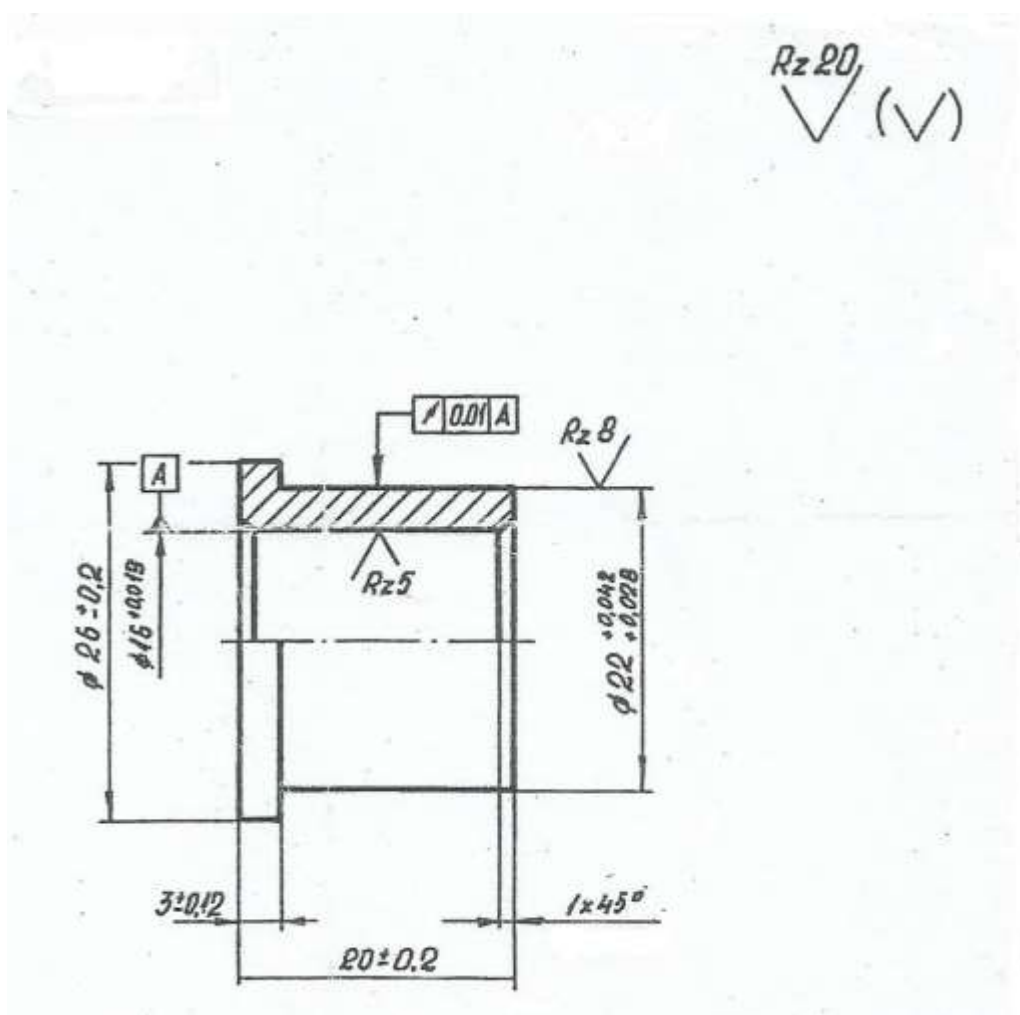
Versions of the task.

1. version

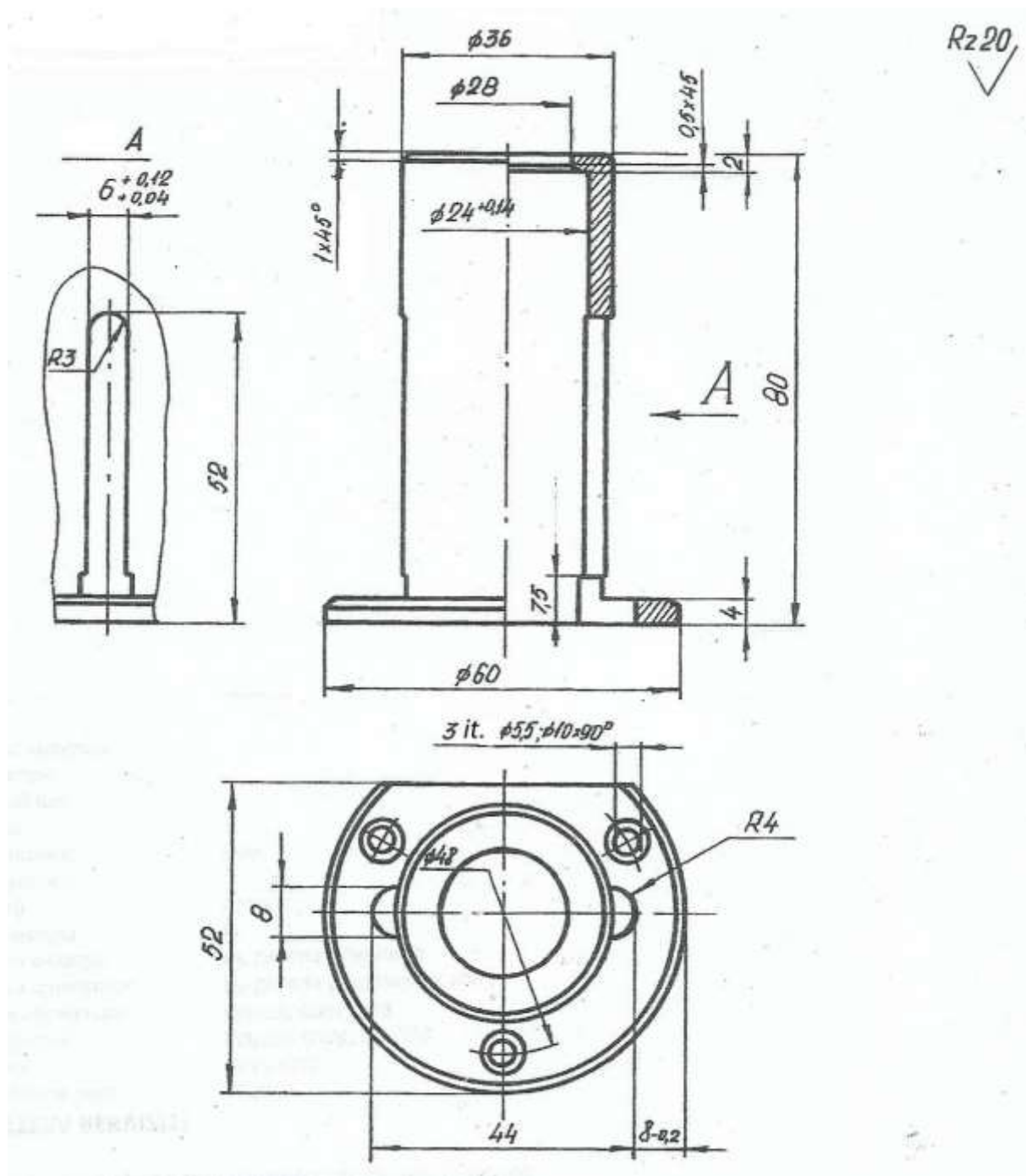
Treat surface $\text{Ø}8$.



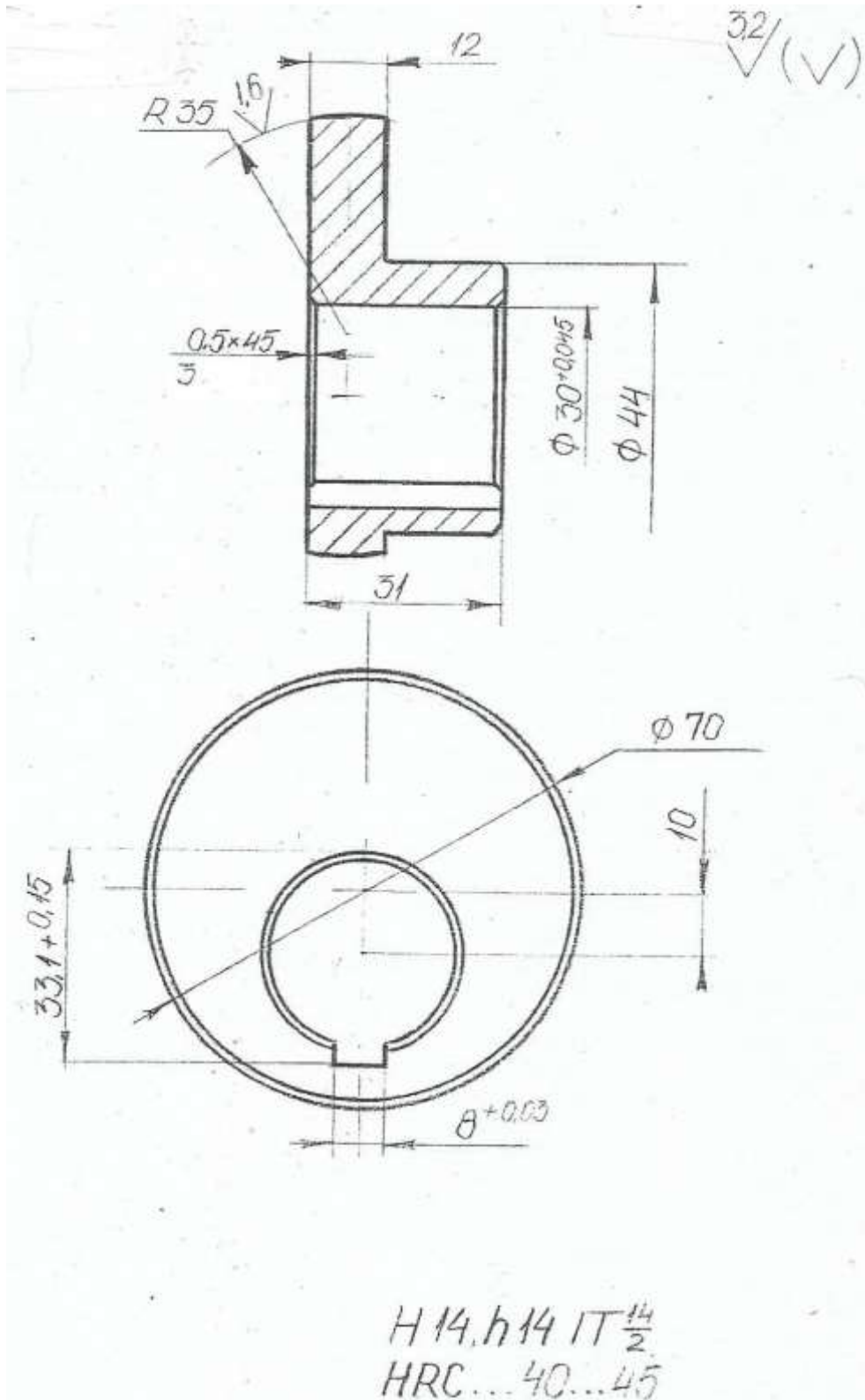
2.version
Treat surface Ø16.



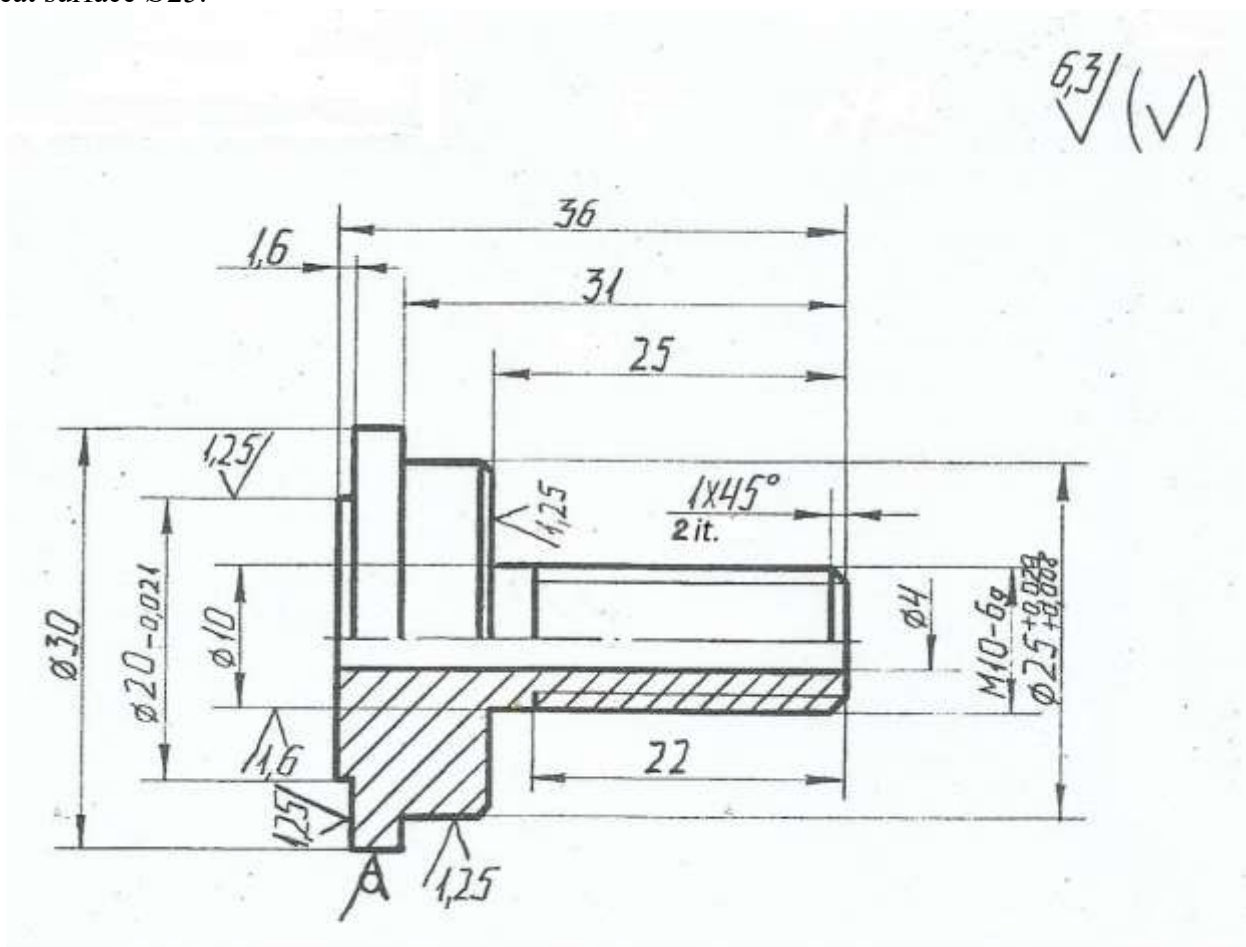
3.version
Treat surface $\text{Ø}24$.



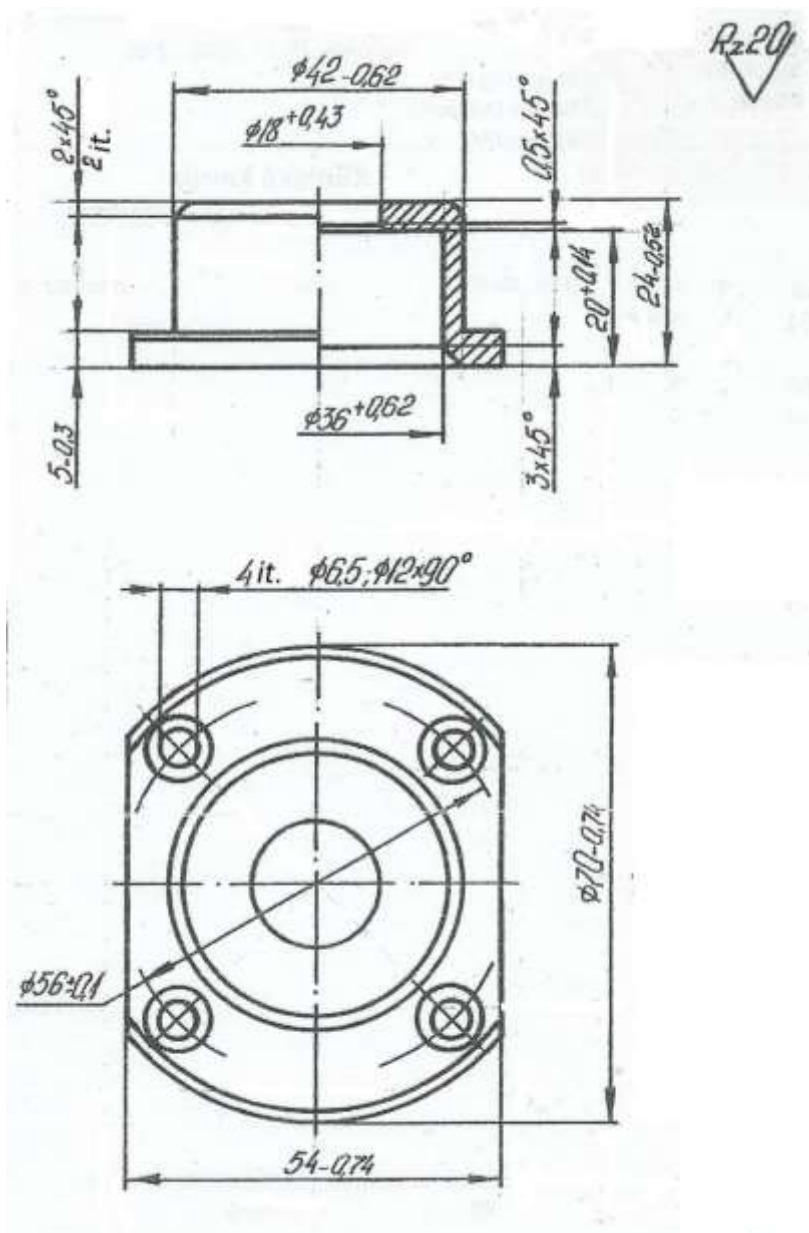
4.version
Treat surface $\text{Ø}30$.



5.version
Treat surface $\text{Ø}25$.



6.version
Treat surface $\text{Ø}42$.



Appendix.

*(operation sketch)	The author		Operations card			Type of production	Batch size			
	Material		Part mass	Workpiece						
	Title	Code description		Method of acquisition	Profile and dimensions	Time, kg				
Name and content of operation by transitions	Workbench	Cutting modes				Device	Cutting tool	Measuring instrument	assistant instruments	Operation time
		T, mm	S, mm/min	V, m/min	N, kW					

*sketches of a complex part (if several views are used for a complete representation) are placed on a separate page, adding a name and code.

Evaluation of results.

Ratings:

The result to be evaluated	The result parameter	Number of points
Part mass	Has been determined	1
Determination of the type of production	Corresponds to the production program	1
Batch size	It is determined	1
Type of workpiece	Corresponds to the material of the part	1
	Corresponds to the type of production	1
	The profile and dimensions are correct	1
	The mass is determined	1
Operation sketch	Position of the part corresponds to the operation	1
	Parts and tool movements are specified	1
	The elements of the clamping device are indicated	1
Operation name and content	Corresponds to the type of machine tool	1
	The number of hikes is indicated	1
	The degree of accuracy of the work is indicated	1
Description of the workbench	Type and dimensions are specified	2
	Specified brand	1
	Corresponds to the dimensions of the part	1
	Specified accuracy according to the accuracy of the part	1
Determination of cutting modes	Cutting depth T is specified	1
	Supply S indicated	2
	Cutting speed V is indicated	1
	Cutting power N is indicated	2
Part clamping device	Corresponds to the type of production	1
Cutting tool	The type and size are appropriate for the job	1
	The material of the cutting part is specified	1
	The material of the cutting part corresponds to the work to be done	1
Auxiliary instrument	The type and size are appropriate for the job	1
Measuring instrument	The type matches the job	1

Disclaimer: Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

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