TURNING OPERATION

Operation sheet

	Operation details	TOOLS
1	Remove the burrs from the work piece. Check the measurement	file,vanier calliper
2	Secure the work piece in 3 jaw chuck living 50mm from the jaw protruding	3 jaw chuck Vanier calliperChuck key
3	Ensure the work is running true (centrically)	scribing block if necessary
4	Mount the tool on the tool post (turret)	tool bit Tool holder Spanners
5	Turn down 18mm diameter for a lenght of 30.8mm	vanier calliper
6	Set 30° 0n compound slide	spanner
7	Using compound (top slide wheel)bturn the 30° taper	tool bit Tool holder Vanier calliper
8	Remove the work piece from the chuck	chuck key
9	Hold the work piece in the lathe this time holding on 18mm diameter Step and living 3mm clearance between the ends of of jaws and the shoulder of the step	scribing block
10	Check that the work is running true	
11	Reset the compound slide	
12	Face off the extra material untill you have 45mm lenght from the soulder	drill chuck Drill chuck key
13	Inset the drill chuck in the tailstock	
14	Clamp a center drill then drill chuck	center drill
15	Center drilling	
16	Remove the centre drill and hold a 9.5mm or 3/8 inches drill bit	Drill bit
17	With a 9.5mm or 3/8 inches drill bit, drill a blind hole of 25 mm depth	9.5mm or 3/8 '' drill bit
18	Turn the protruding part diameter to Ø23mm	
19	Turn the groove 5mm wide x2.5 mm deep	Parting tool bit

20	Remove the work piece from machine	Chuck key
21	Using the vernier height gauge , Mark the centre line, 9mm above the centre line and 9mm below the centre line to give dimension 18mm	Marking table, Vernier height gauge and a Vee-block
22	Using the Milling Machine, mill the the dimension 18mm	Milling Machine, indexing head
23	Use M10 taps and them10 hole for a depth of 10mm	M10 taps, tap wrench

MACHINE SHOP

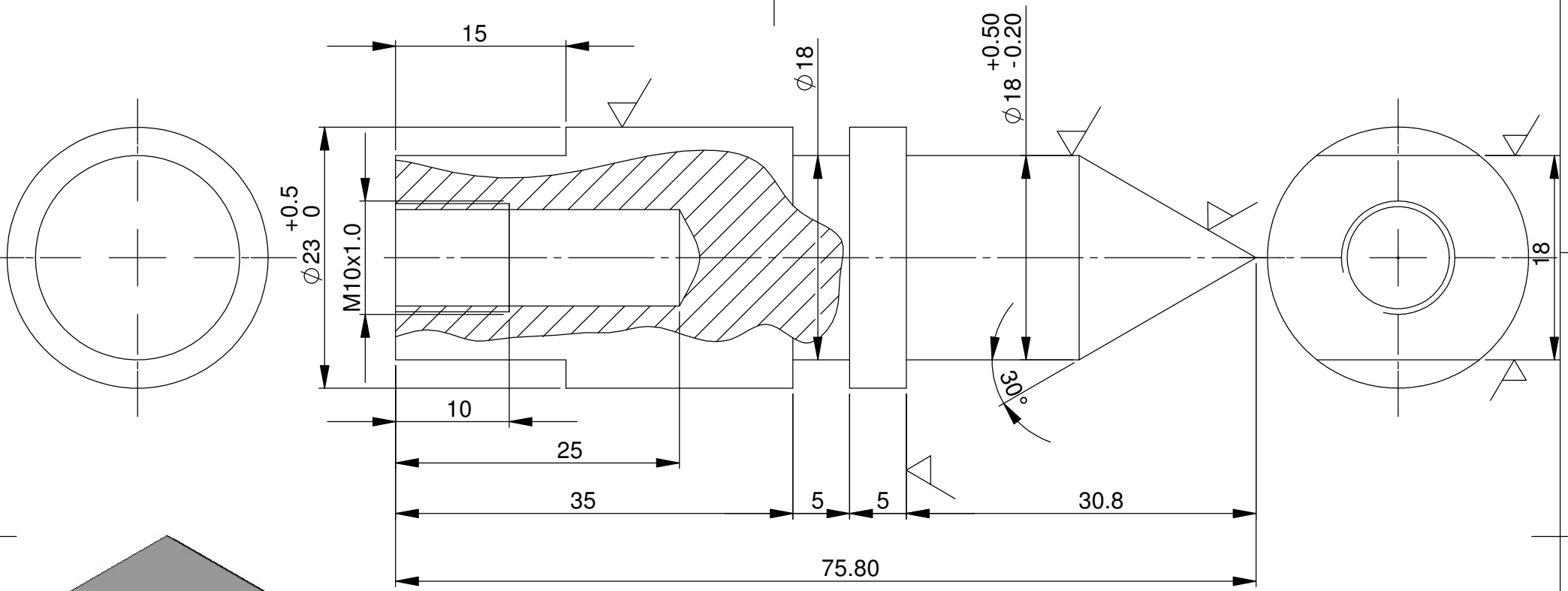
TURNING EXCERCISE

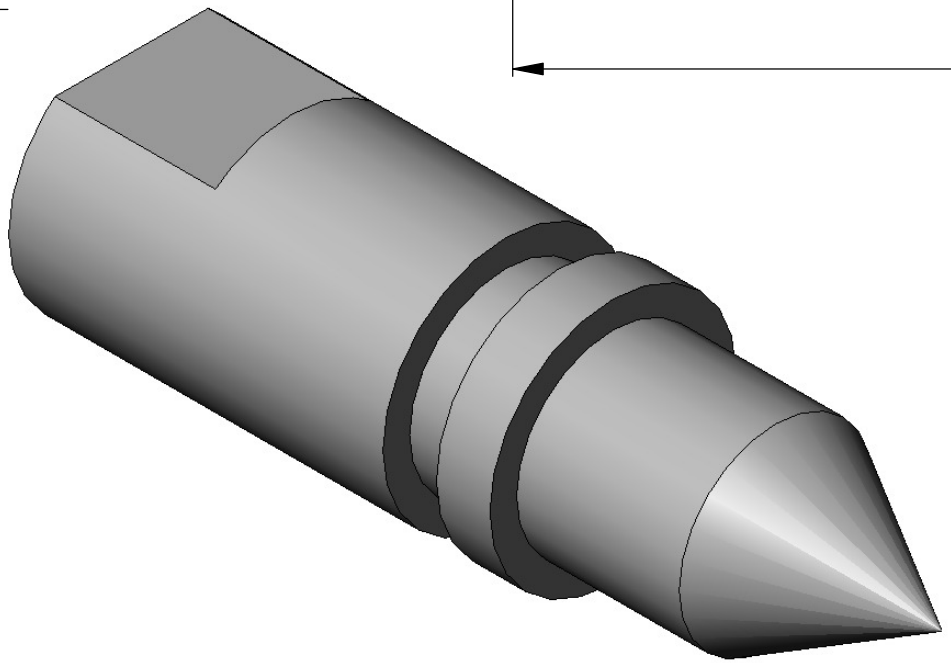
At the end of this excercise you should be able to describe the following:-

1) What is a center lathe
2) Head stock
3) The function of a clutch and gear box
4) Tool post (turret)
5) Diffrent types of chucks and other work holding devices on a centre lathe
6) Cross slide
7) Saddle/carriage
8) Feed shaft and lead screw
9) Compound slide
10) Top slide

How to do the following operations on the lathe machine:-

1) To hold the work piece in 3 jaw chuck
2) To do plain turning/step turning
3) To use tailstock
4) Drilling
5) Center drilling
6) Taper turning
7) Facing





FINISH: Machine allover		DEBUR AND BREAK SHARP EDGES	**University of Nairobi Mechanical & Man Engineering Dept**
	NAME	DATE	TITLE: Pin
DRAWN	Eugene Odera	15/05/2013	
CHK'D			DWG NO. 4th term Exercise
MATERIAL: Mild Steel			A4
WEIGHT: 0.02		SCALE: 2:1	SHEET 1 OF 1 REVISION

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MILLIMETERS
SURFACE FINISH:
TOLERANCES:
LINEAR:
ANGULAR: