

Last name : *HOKIA*

First name: *BURCA*

Group # :

**INSA** INSTITUT NATIONAL  
DES SCIENCES  
APPLIQUEES  
LYON

# SCAN1ST DESIGN TEST

December 2014 duration : 1h00  
no documents allowed  
Standard calculator allowed

1er cycle - 1st year

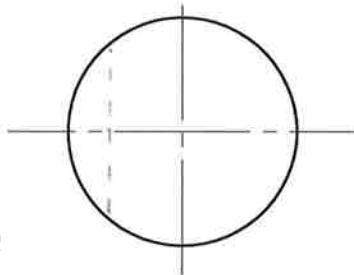
The document is composed of 1 double sided A3 sheet.

All exercises are independant of each other

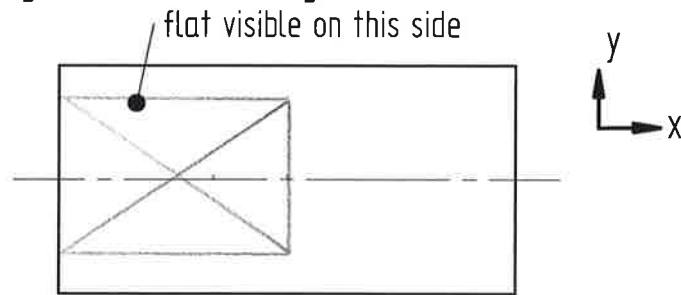
*14,8/20*

Great care in the realization of drawings and quality of line drawing will be taken into account.

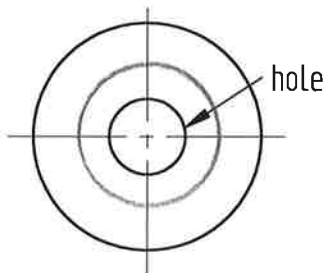
**Exercise 1: Q11:** Complete the views to include a flat at the left end of the shaft. The flat must be of 20mm width (following the y axis) and 30mm depth (following the x axis) on the right view



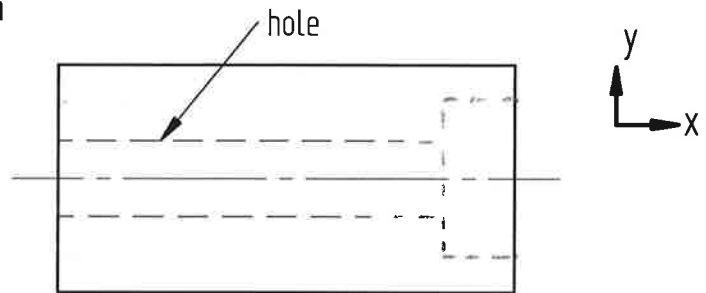
1:1 scale



**Q12:** Complete the views to include a spot facing of diameter 20mm and width 10mm (following the x axis) at the right end of the 10mm diameter hole already shown



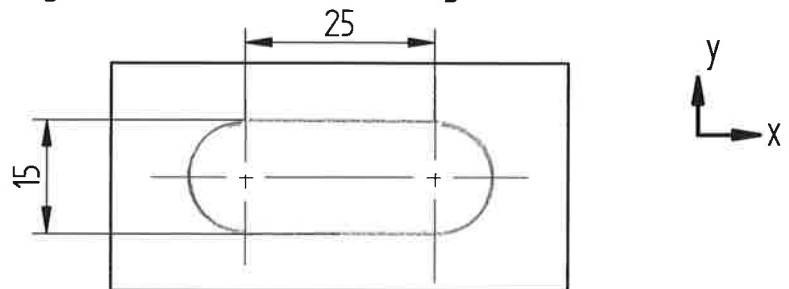
1:1 scale



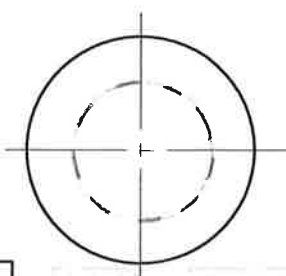
**Q13:** Complete the views to include an oblong through hole of width 25mm (following the x axis) and 15mm height (following the y axis)



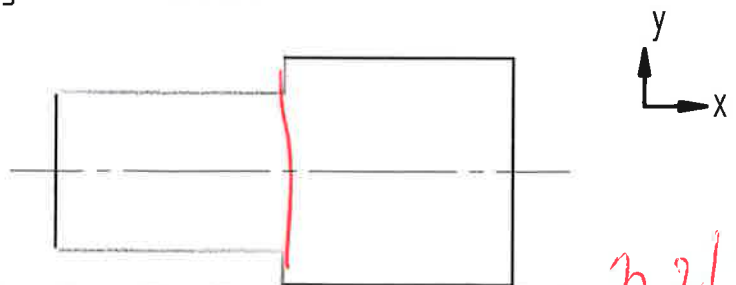
1:1 scale



**Q14:** Complete the views to include a shoulder 30mm away from the left end of the shaft and between the 20mm diameter part (left end) and 30mm diameter part (right end) of the shaft.

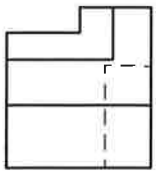


1:1 scale

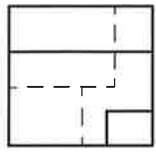


OR 1/2

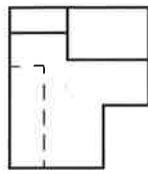
*7,2/3,4*



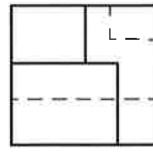
a



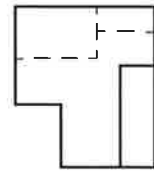
b



c



d



e

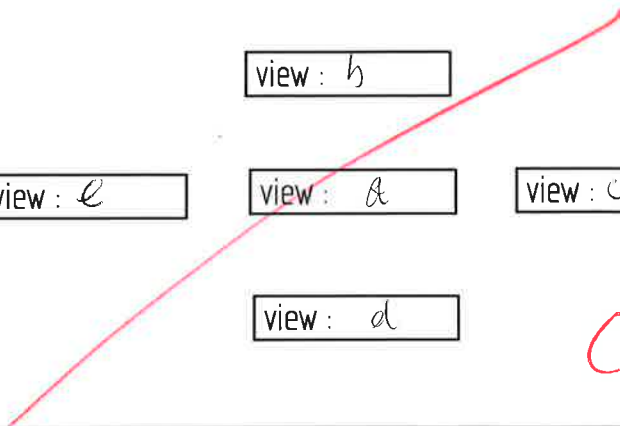
view : b

view : e

view : a

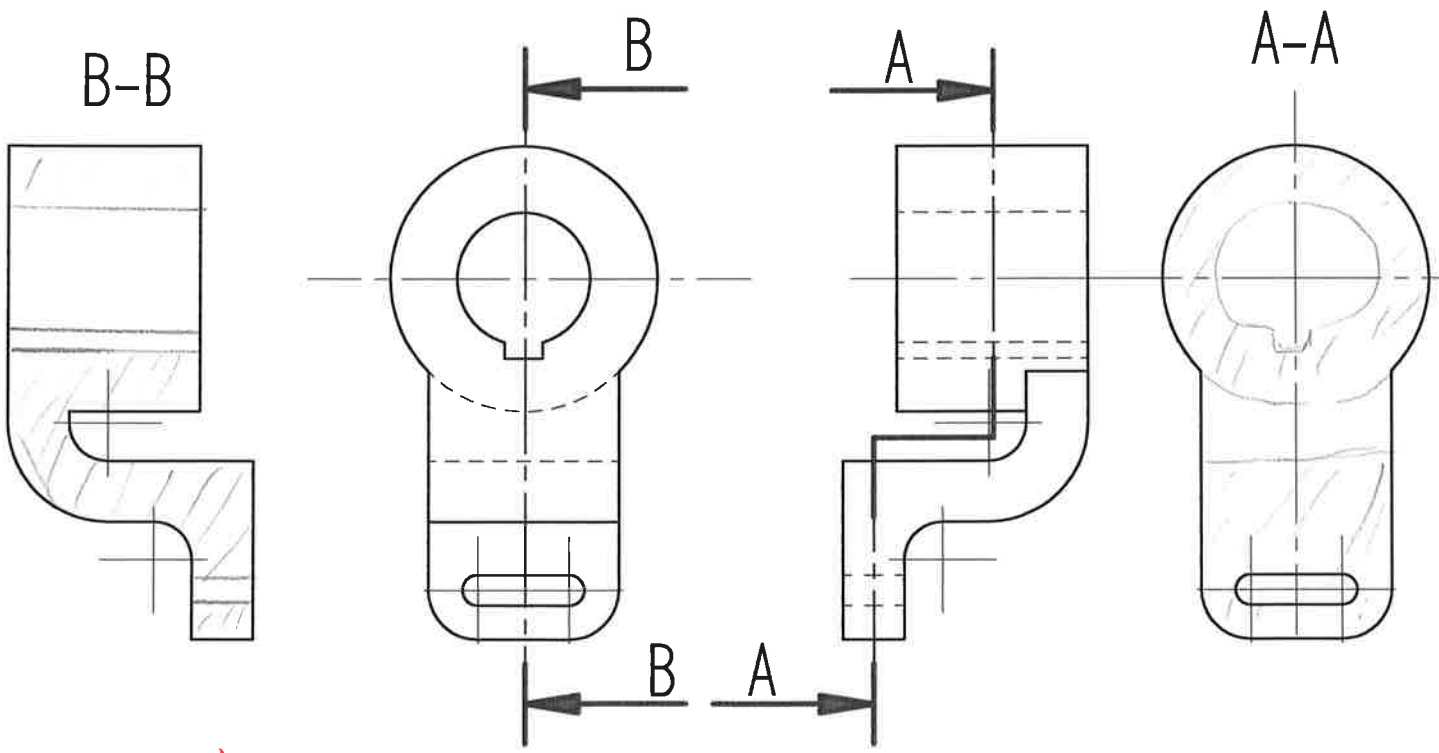
view : c

view : d



**Exercise 2:** Place correctly all the views shown above (a, b, c, d, e) on the draft shown on the right (i.e. define front, left, right, top and bottom views).

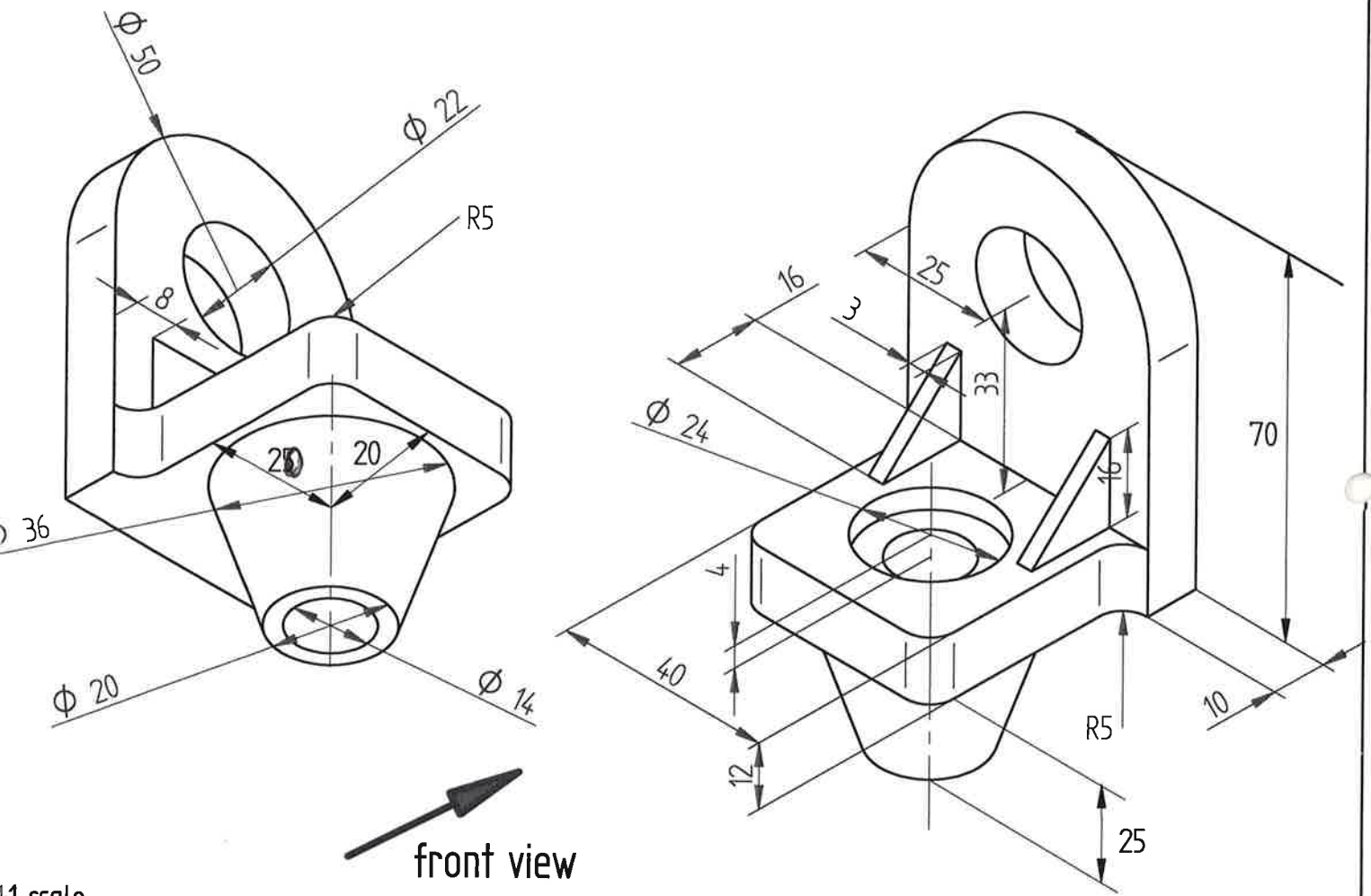
**Exercise 3:** Complete the following cross sections A-A and B-B WITHOUT HIDDEN EDGES.



1, 3 / 3, 8

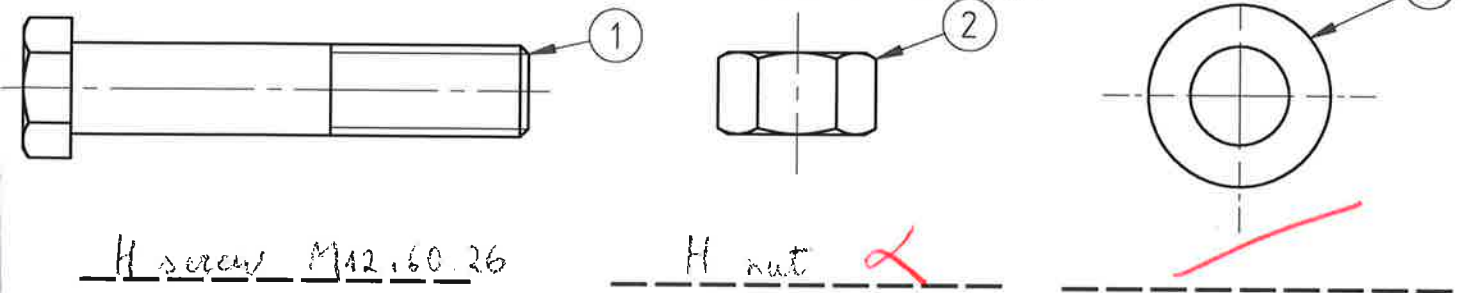
1:1 scale

**Exercise 3:** ON the left page, complete the draft of the part given below (1:1 scale). You must represent the front view, top and bottom views as well as cross section of the left view, the cutting plane is the symmetry plane of the part. You must show hidden edges on all views, including on the cross section.



1:1 scale

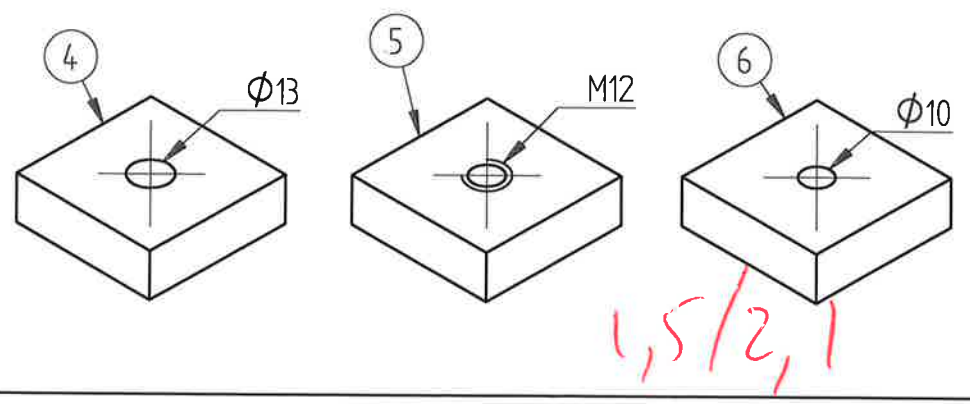
**Exercise 4:** Q4.1: Give the normalized designation of components 1 to 3 (1:1 scale).



Q4.2: We want to assemble together two blocks (parts 4, 5 or 6 to be chosen). Choose which elements from 1 to 6 are required and give the stack order to create an assembly using: a) a screw joint, b) bolting. A part can be used more than one time in an assembly.

Q4.2a: Screw joint:  
1-3-4-5

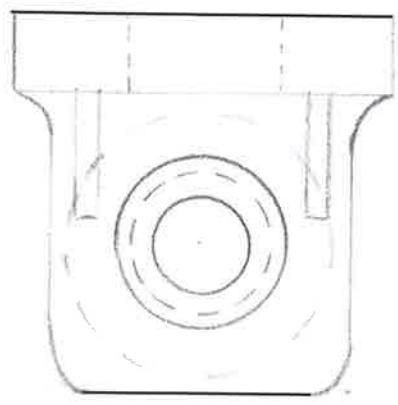
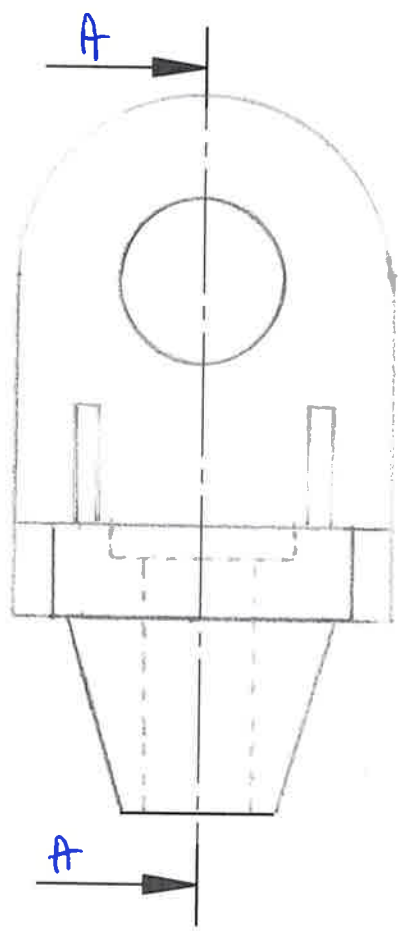
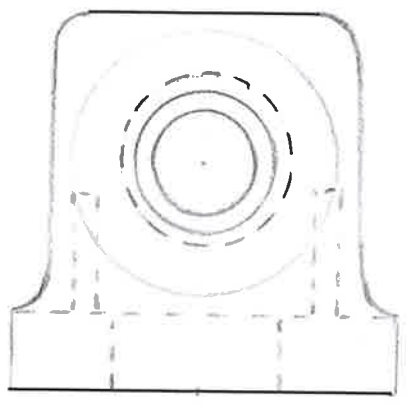
Q4.2b: Bolting  
1-4-4-2



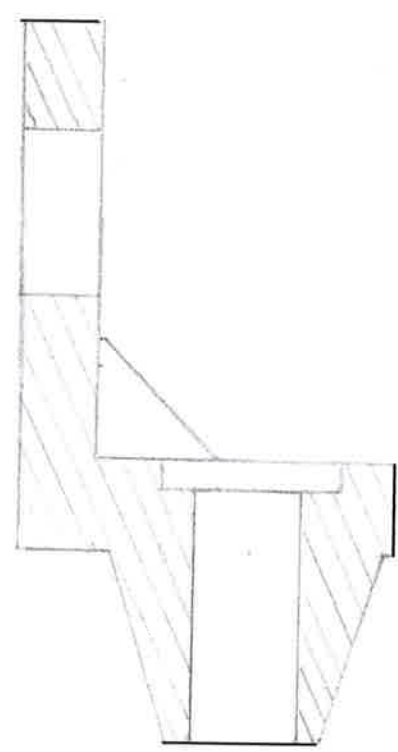
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Group # : 60



A-A



*very good*  
*8,8/9,8*

DR 2/2