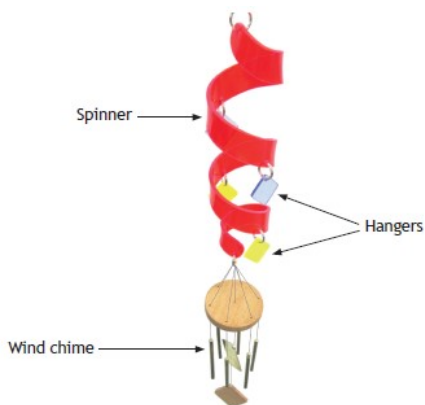


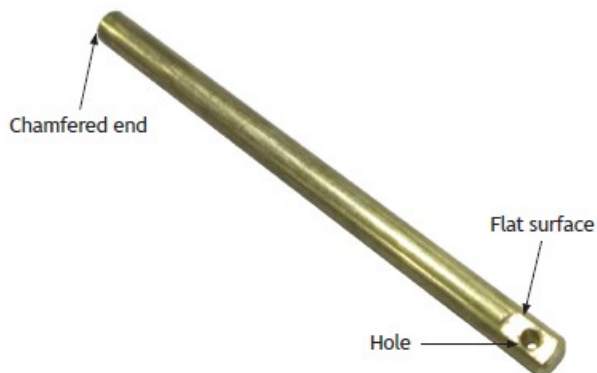
1. A pupil's project for a combined wind chime and spinner is shown below.



a.) The chimes were made from a length of 6mm diameter brass bar.
State **two reasons** why brass was a suitable choice of material for the chimes.

1. _____
2. _____

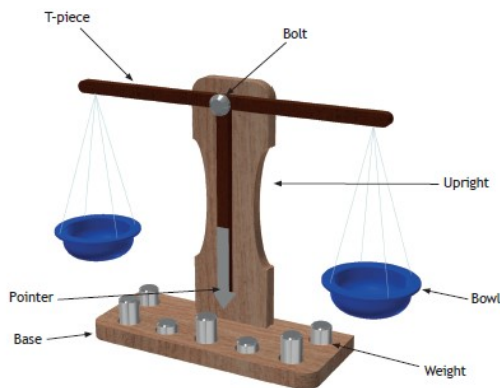
b.) The chime shown below was manufactured from the length of brass.



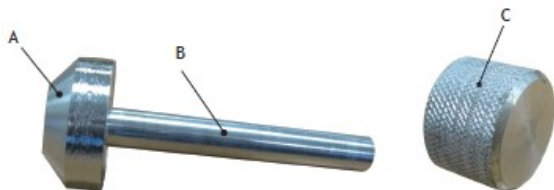
Describe how the chime would be manufactured with reference to workshop **tools**.

-
-
-
-
-
-
-
-
-
-

2. A design proposal for a set of educational scales is shown below.



a.) The bolt and weight were created using the centre lathe as shown.



i.) State the names of the processes that have been carried out at A, B and C on the centre lathe.

A. _____

B. _____

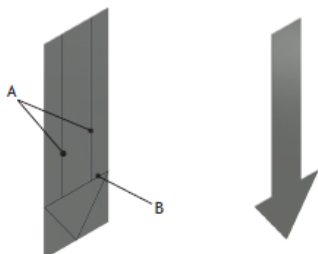
C. _____

ii.) Having created features A and B, adjustments had to be made to the centre lathe to create feature C. State two adjustments that would have to be made to the centre lathe to create feature C.

1. _____

2. _____

b.) The pointer was made from sheet metal.



i.) State the name of a suitable silver-coloured, non-ferrous metal that could be used for the pointer.

ii.) Name the tool that would be used to mark the two parallel lines shown at A.

1

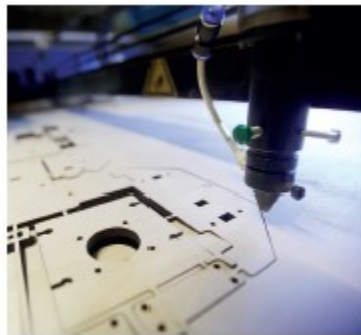
iii.) Name the tool that would be used with a scriber to mark the line B at 90° to line A.

1

iv.) Name a hand tool that could be used to cut out the shape of the pointer.

1

3. Laser and plasma cutters are used widely in manufacturing.



a.) Describe **three benefits** of using these processes **to the manufacturer**.

1.

2.

3.

3

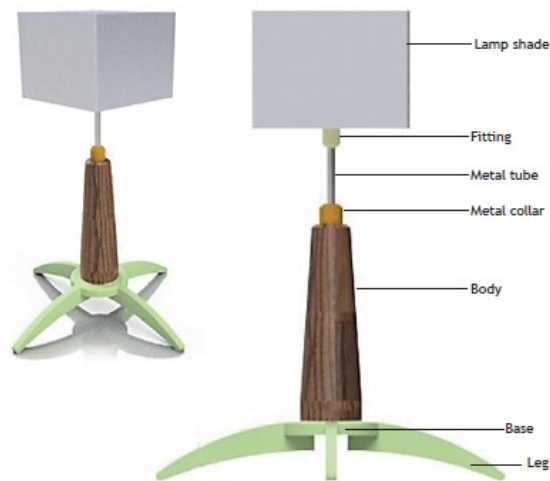
3. b.) Describe **three disadvantages** of the use of these manufacturing processes either to the manufacturer or the manufacturing industry.

- 1. _____

- 2. _____

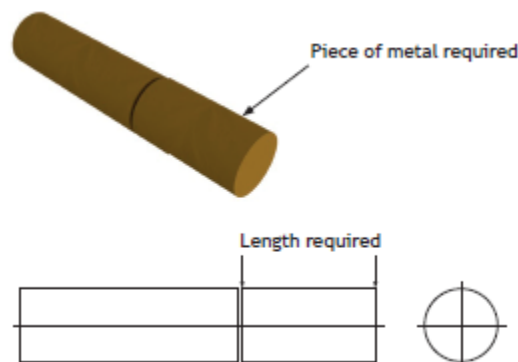
- 3. _____

4. The design proposal for a table lamp is shown below.



a.) Name a suitable yellow-coloured alloy for the metal collar.

b.) The metal to make the collar was cut to length then turned on the centre lathe.

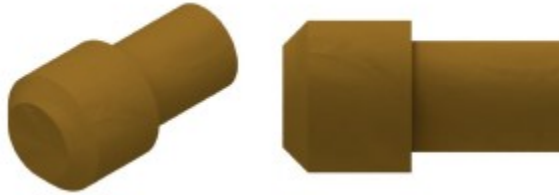


i.) Name the vice that should be used to hold the metal while it is being cut.

b.) ii.) Name a hand tool that could be used to cut the metal to the correct length.

1

iii.) Before the metal collar was drilled, a number of processes were carried out on the centre lathe.



State the name of three processes that would be carried out on the centre lathe to produce the collar.

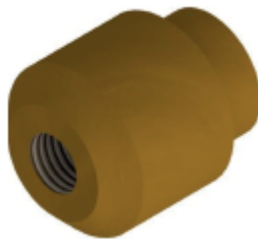
1. _____

2. _____

3. _____

3

c.) A hole was drilled to allow the internal thread to be cut.



i.) Explain why a centre drill has to be used before the hole can be drilled.

1

An external thread was cut at both ends of the metal tube. This allows the light fitting to attach to the collar of the lamp.



ii.) Name the hand tool that would be used to cut the external thread.

1

iii.) State **two procedures** that will ensure a high quality thread is cut.

1. _____

2. _____