

N5 HOMEWORK exam style 1

1. A folding kitchen stool is shown below.



- a) (i) State two reasons why tubular steel is a suitable material for the frame of the stool. **(2)**
- (ii) State a suitable manufacturing process for the thermosetting plastic feet and state a reason why this process is suitable. **(2)**
- (iii) State two reasons why laminated beech plywood is a suitable material for the seat and back of the stool. **(2)**
- (iv) State a suitable method of permanently joining the steel foot rest to the frame and state a reason why this joining method is appropriate. **(2)**
- b) Describe two ways in which the design of the stool has been influenced by ergonomics specifically anthropometrics; **(2)**
- c) State two reasons why each of the following is important in the design of the stool: **(2)**
- (i) surface finishes; **(2)**
- (ii) safety; **(2)**
- (iii) economics **(2)**
- (16)**

HOMWORK exam style 2

N5

2. A child's activity toy is shown below.



- (a) (i) State two reasons why polypropylene is a suitable material for the slide. **(2)**
- (ii) State two reasons why steel tube is a suitable material for the frame of the ladder. **(2)**
- (iii) State a suitable finish for the frame of the ladder and state a reason why this finish is appropriate. **(2)**
- (iv) State a suitable method of fixing the tubular steel supports to the polypropylene slide and state a reason why this fixing method is appropriate. **(2)**

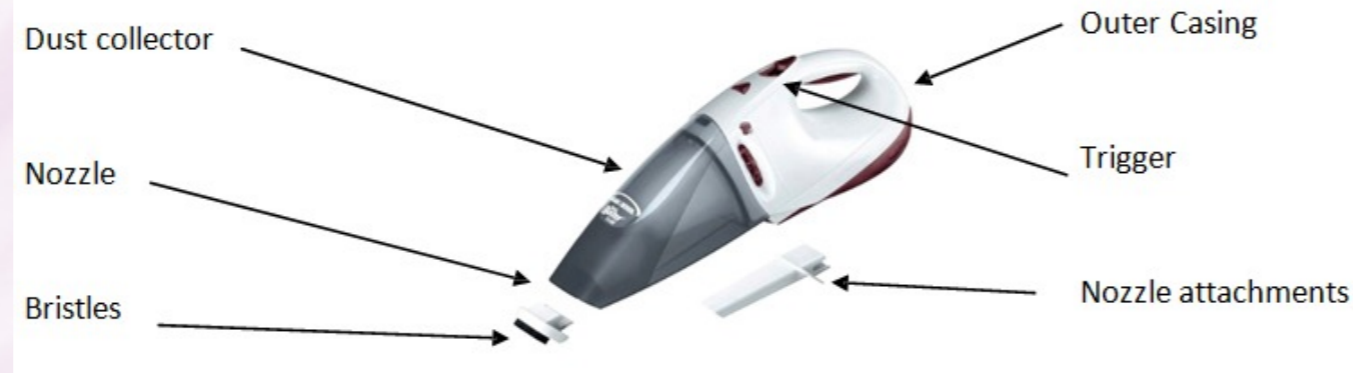
(b) Describe two ways in which the design of the activity toy shown above has been influenced by ergonomics and anthropometrics **(2)**

(c) Describe two ways in which the design of the activity toy shown above has been influenced by each of the following design issues: **(2)**
 (Note: different descriptions should be given for each design issue.) **(2)**

- (i) safety; **(2)**
 (ii) durability;
 (iii) contrast. **(16)**

N5 HOMEWORK exam style 3

A cordless vacuum cleaner is shown below.



- (a) (i) State a suitable manufacturing process for the outer casing and justify your answer. **(2)**
- (ii) State two reasons why the designer may have produced models when designing this cordless vacuum cleaner. **(2)**
- (iii) State two reasons why plastic is a suitable material for the manufacture of the outer casing. **(2)**
- (b) Describe two ways in which the design of the cordless vacuum cleaner shown above has been influenced by ergonomics and anthropometrics: **(2)**
- (c) Describe two ways in which the design of the cordless vacuum cleaner shown above could have been influenced by each of the following design issues: **(2)**
- (i) contrast; **(2)**
- (ii) consumer demand; **(2)**
- (iii) ease of maintenance. **(14)**

HOMework exam style 4

N5

A mass produced wooden training bicycle for a 2–4 year old child is shown below.



(a) (i) State a suitable material for the tyres and state a reason why this material is suitable. (2)

(2)

(ii) State two reasons why beech plywood is a suitable material for the frame of the bicycle. (2)

(2)

(iii) State a suitable process for manufacturing the plywood parts of the frame and state a reason why this process is suitable. (2)

(2)

(iv) State a suitable clear finish for the frame and state a reason why a clear finish would be applied. (2)

(2)

(b) Describe two ways in which the design of the training bicycle shown above has been influenced by ergonomics and anthropometrics (2)

(2)

(c) Describe two ways in which the design of the training bicycle shown above has been influenced by each of the

(2)

following design issues:

(2)

(i) function; (2)

(2)

(ii) safety; (2)

(iii) contrast (2)

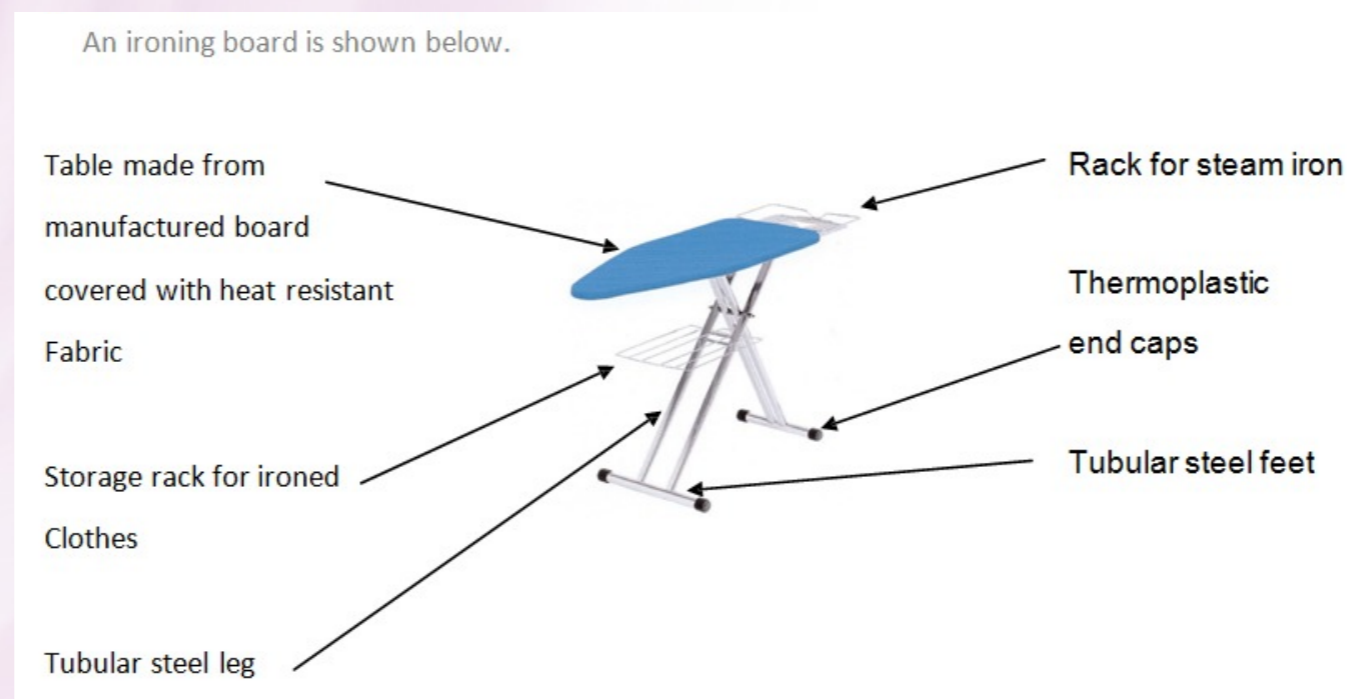
(Note: different descriptions should be given for each issue.)

(16)

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E X A M P R A C T I C E Q U E S T I O N S

N5 HOMEWORK exam style 5



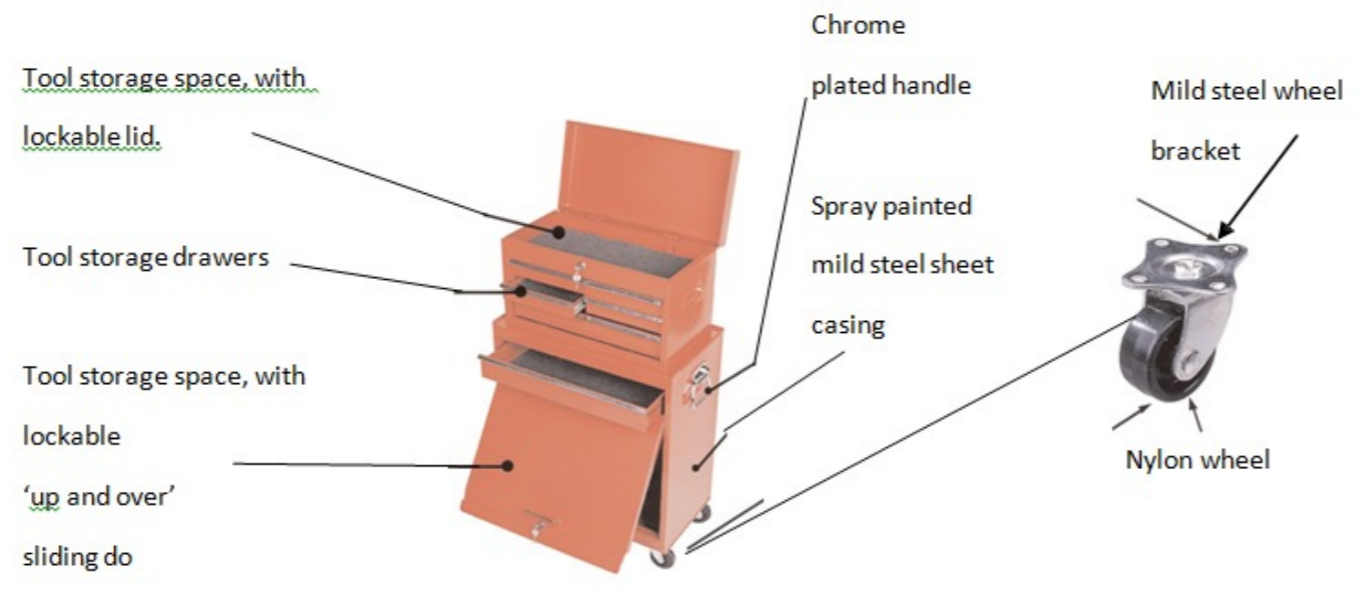
- (a) (i) State **two** reasons why tubular steel is a suitable material for the legs and feet of the ironing board. **(2)**
- (ii) State a suitable manufacturing process for the thermoplastic end caps and state a reason why this process is suitable. **(2)**
- (iii) State **two** reasons why manufactured board is a suitable material for the table of the ironing board. **(2)**
- (iv) State a suitable method of joining the legs to the feet **and** state a reason why this joining method is appropriate. **(2)**
- (b)) Describe how the design of the ironing board has been influenced by anthropometrics; **(2)**
- (c)) Describe how the design of the ironing board has been influenced by each of the following design issues:
- (i) function; **(2)**
- (ii) safety; **(2)**
- (iii) durability. **(2)**

(16)

HOMWORK exam style 6

N5

6. A portable tool chest is shown below.



(a) With reference to the items shown:

- (i) state two reasons why mild steel sheet is a suitable material for the manufacture of the tool chest;
- (ii) other than painting, state two suitable protective finishes for the mild steel casing of the tool chest;
- (iii) state any suitable manufacturing process for the plastic wheel;
- (iv) state two reasons why plastic is a suitable material for the wheel;
- (v) state any process used in the manufacture of the mild steel wheel bracket.

(b) Describe how the design of the tool chest has been influenced by anthropometrics;

(c) Describe how the design of the tool chest could have been influenced by each of the following issues:

- (i) durability;
- (ii) function;
- (iii) safety.

(2)

(2)

(2)

(2)

(2)

(2)

(2)

(2)

(2)

(2)

(20)

N5 HOMEWORK exam style 7

1. A selection of plastic trays from the inside of chocolate boxes is shown below.



(a) The plastic trays have been manufactured by vacuum forming. Explain why the following features are found on the pattern: **(2)**

(i) rounded corners; **(2)**

(ii) tapered edges; **(2)**

(iii) no internal slopes/curves.

(Sketches may be used to illustrate your answers.) **(2)**

(b) The plastic trays are made from a thermoplastic. **(2)**

Describe the main differences between thermoplastics and thermosetting plastics. **(8)**

HOMEWORK exam style 8**N5**

2. A traditional garden trowel is shown below.



The garden trowel blade is made from stainless steel with the handle made out of wood.

(2)

(a)(i) State a functional reason for the stainless steel blade

(2)

(ii) State two possible methods of joining the handle to the blade i.e. look closely at joint.

(1)

(iii) State 1 benefit for the manufacturer of making the product out of a Thermoplastic.

(3)

(b) State three advantages for the consumer of using thermoplastics for this type of product.

(8)

E X A M P R A C T I C E Q U E S T I O N S

E X A M P R A C T I C E Q U E S T I O N S

N5**HOMWORK** exam style 9

3. The computer desk shown below was supplied as a flat-pack.



(a) State two advantages to the consumer of flat-packed furniture.

(b) State the purpose of the holes identified in the picture below.

Holes



(c) Knock down fittings are often used in the construction of flat-packed furniture. Explain the term "knock down fittings".

(d) Explain 2 reasons why manufactured boards are more suitable for the construction of the furniture.

2**1****1****2****(6)**

E X A M P R A C T I C E Q U E S T I O N S

E X A M P R A C T I C E Q U E S T I O N S

HOMWORK exam style 10

N5

4. Six products are shown below with a list of manufacturing processes.

Match each product or part of product with the most suitable manufacturing process from the list.

Manufacturing Processes

- Soldering
- Wood Turning
- Press-forming
- Extrusion
- Metal turning
- Injection moulding
- Sand casting
- Laminating
- Turning
- Line Bending



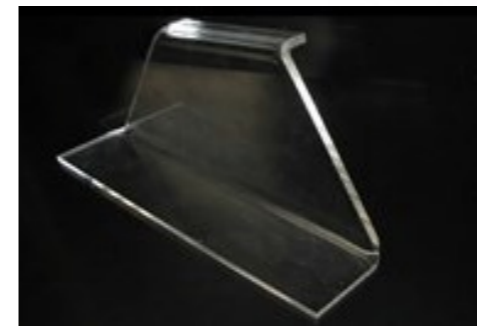
A. Curtain Rail



B. Pine Table Leg



C. Free Weights



D. Thermosplastic book stand



E. Metal Shafts



F Plastic Cannon

E X A M P R A C T I C E Q U E S T I O N S ⁽⁶⁾

E X A M P R A C T I C E Q U E S T I O N S

N5 HOMEWORK exam style 11

1. I phone 5 , mobile phone.



- a) With reference to the above phone, describe the *primary* and a *secondary function*. **2**
- (b) Describe a technique that could be used to evaluate the ease of use of the phone. **2**
- (c) Describe some aesthetic qualities of the phone. **2**

2.



(6)

- (a) Explain how to secure a twist drill into this machine . **(2)**
- (b) If the twist drill will not reach work piece explain how to adjust the table on the pillar drill **(2)**
- (c) Name 4 safety precautions which should be followed when using this machine **(4)**
- (d) Explain how to drill 20 mm into a piece of 40mm thick pine. **(2)**

(10)

HOMEWORK exam style 12

1. Children's Cutlery is shown below

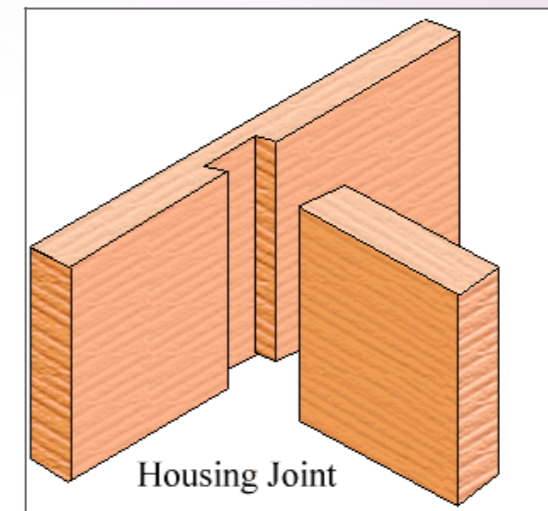


During the design of children's cutlery, the designer would consider the following areas: Ergonomics, Safety, Aesthetics, Materials.

Explain why each of these areas is important in the design of children's cutlery.

2.

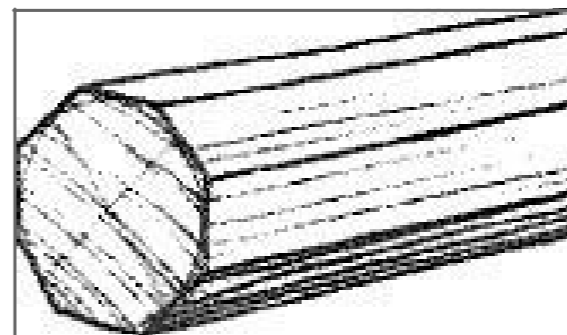
(a) Explain how to mark out and cut a housing joint, you must attempt to include tool names and process steps required. You must attempt to record these in the correct order.



(4)

(4)

b) Explain how to prepare a piece of wood for turning between centres.



(4)

(12)

N5 HOMEWORK exam style 13

1. (a) Explain how to prepare and dip coat the handles for the spanners shown



(b) If the finish on the plastic after dip coating is dull and gritty explain the cause and how to rework product

(2)

(c) Explain 2 reasons why the handle of the spanner is dip coated

(2)

(2)

(d) Explain 2 pieces of Anthropometric data the designer may need to consider when designing the handle of the spanner.

(e) Explain functional reasons why the materials chosen to make the spanner is important

(2)

2. A typical classroom chair is shown in the photo.

(a)(i) State the name of a suitable material for the seat of the chair.

(1)

(ii) Give two reasons why the material you have stated would be suitable for use in this type of product

(2)

(iii) Explain 2 reasons why tubular steel is suitable for the frame of the chair

(2)

(b) State a suitable manufacturing process that could be used to manufacture the seat of the chair

(1)

(2)

(c) State 2 functions of the horizontal bars on the chair.

(4)

(d) State 4 pieces of Anthropometric data that the designer would need to consider when designing the chair

(20)



Tubular steel frame

Horizontal support bar

HOMWORK exam style 14

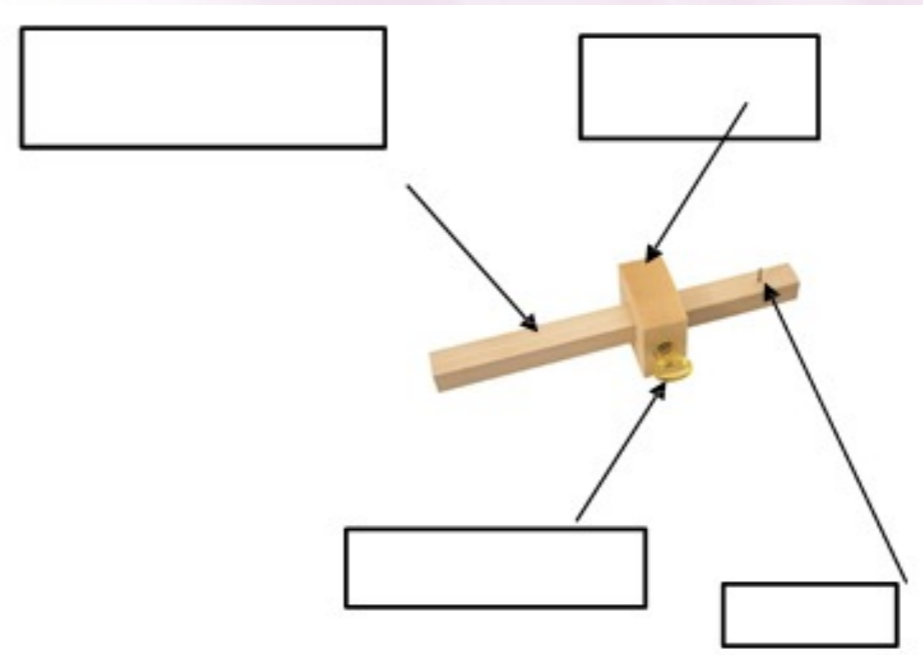
1. Setting Woodworking Tools

(a) Tool Name.....

(1)

(b) Name the 4 main parts of this tool

(4)



(b) Explain how to set up this tool to 16mm.

(3)

(d) Tool Name

(1)



(e) Explain how to check this tool is set correctly and how to adjust the angle and depth of blade.

(3)

(12)

N5 HOMEWORK exam style 15

1 Write a step by step guide, on how to mark-out and cut the following wood joints.

Use sketches /text to help .

The description must include tool names used to mark out and cut the joints

(a) Joint Name.....

(b) Marking out-

(c) Cutting-

(d) Joint Name.....

(e) Marking out-

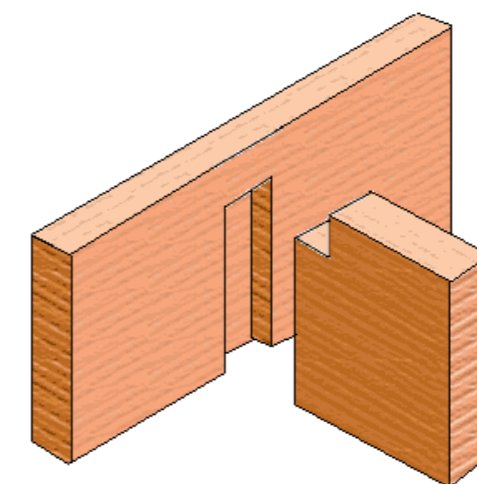
(f) Cutting-



(1)

(2)

(3)



(1)

(2)

(3)

HOMework exam style 16

1. A claw hammer is shown below.

(a) State two reasons why the designer has chosen forged alloy steel for the head of the claw hammer.



(2)

(B) State two reasons why the designer has chosen GRP for the shaft of the claw hammer.

(2)

(2)

(c) Describe the appeal of the claw hammer to the consumer.

2. The outer casings of the two products show below have been injection moulded.

(a) (i) State three features which would confirm that injection moulding is the manufacturing process used for the outer casings (3)

(ii) State two advantages to the manufacturer of using injection moulding to produce the outer casings.

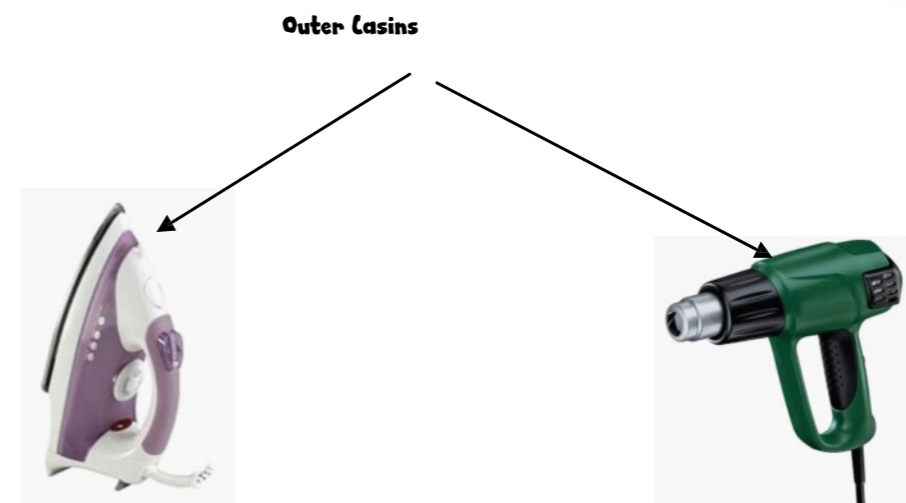
(2)

(b) State how the designer could find out the correct sizes for the handles of the two products without referring to anthropometric data tables.

Both products were designed with planned obsolescence.

C) i) State an advantage of planned obsolescence to the manufacturer.

(ii) State two reasons why planned obsolescence is harmful to the environment.



(1)

(2)

(15)

N5 HOMEWORK exam style 17

1. A traditional watering can is shown below.



The watering can is made from galvanised mild steel and brass.

(1)

a) (i) State a functional reason for galvanising the mild steel.

(2)

(ii) State two suitable methods of joining the handles to the body of the watering can.

Modern styles of watering can are usually manufactured from thermoplastics.

(3)

(b) State three advantages for the consumer of using thermoplastics for this type of product.

(6)

HOMEWORK exam style 18**N5**

1. The corner-shelving unit shown below is constructed from hardwood and is sold as a flat-pack



- a) (i) State the name of a suitable manufacturing process for the spindles.
- (ii) Describe a method of joining the spindles to the shelves. (Sketches may be used to illustrate your answer.
- (iii) State the name of a power tool which could have been used to produce the curved shape of the shelves.
- (B) State two disadvantages to the consumer of flat-packed furniture.
- (c) State two reasons why using a softwood would be more environmentally friendly than using a hardwood.
- (d) State the name of two suitable finishes that could be applied to the hardwood.

(1)**(2)****(1)****(2)****(2)****(2)****(10)**

E X A M P R A C T I C E Q U E S T I O N S

E X A M P R A C T I C E Q U E S T I O N S