

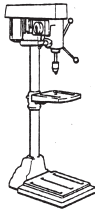
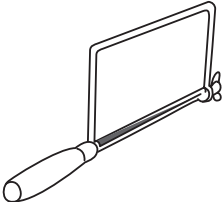
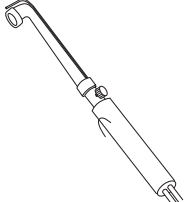

Answer ALL the questions. Write your answers in the spaces provided below.

1. The table below shows some tools and equipment.

(a) Complete the table by:

- (i) naming each tool or piece of equipment
- (ii) describing its use.

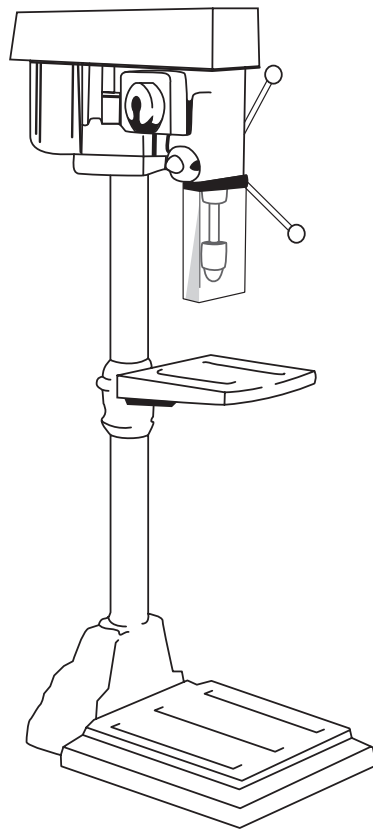
The first one has been done for you.

Tool/Equipment	Name	Use
	Pillar drilling machine	Used for drilling holes
		
		
		

(6)



(b) The drawing below shows a pillar drilling machine.



The pillar drilling machine is used for drilling holes.

Give **two** safety precautions that must be taken when using a pillar drilling machine.

1

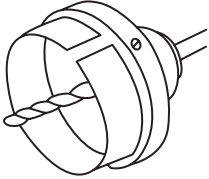
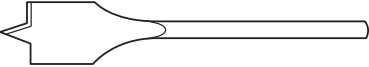
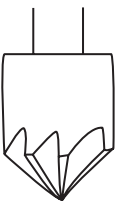
2

(2)



(c) The table below shows three different types of drill used in a school workshop.

In the table below, mark with a cross (☒) the correct name for each drill shown.

Drill type	Drill name
	<p>Flat bit <input type="checkbox"/></p> <p>Countersunk bit <input type="checkbox"/></p> <p>Hole saw <input type="checkbox"/></p> <p>Twist drill <input type="checkbox"/></p>
	<p>Flat bit <input type="checkbox"/></p> <p>Countersunk bit <input type="checkbox"/></p> <p>Hole saw <input type="checkbox"/></p> <p>Twist drill <input type="checkbox"/></p>
	<p>Flat bit <input type="checkbox"/></p> <p>Countersunk bit <input type="checkbox"/></p> <p>Hole saw <input type="checkbox"/></p> <p>Twist drill <input type="checkbox"/></p>

(3)

(Total 11 marks)

Q1

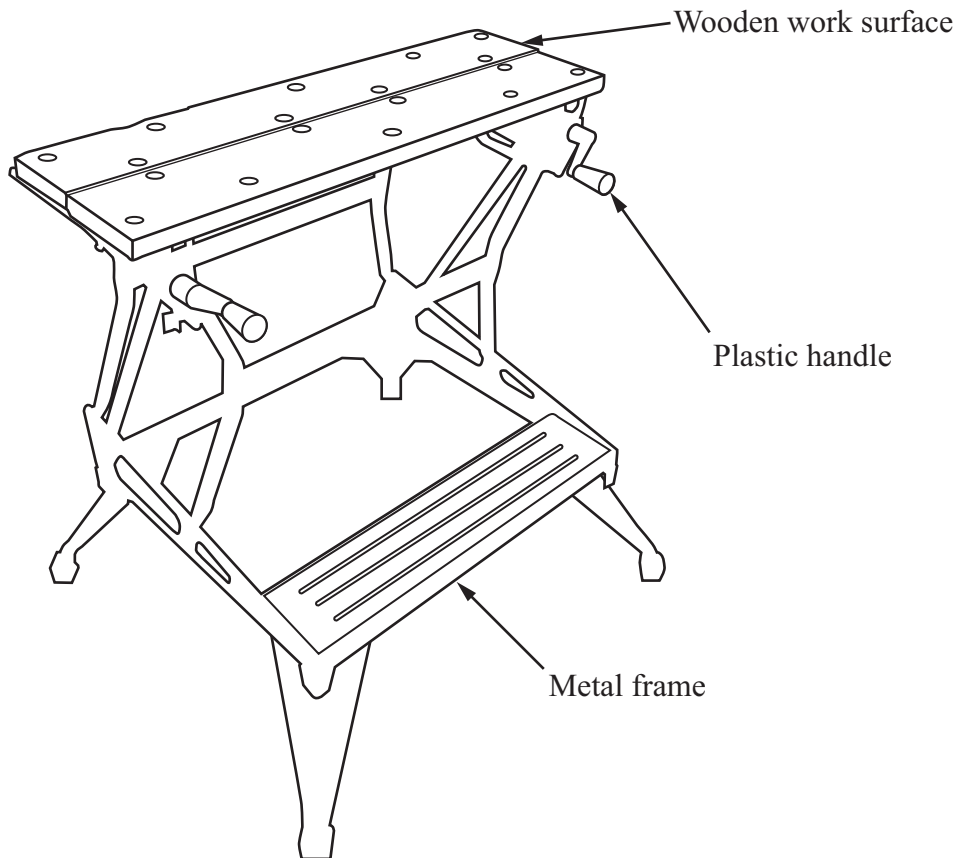
--	--



BLANK PAGE



2. The drawing below shows a portable workbench.



(a) (i) A ferrous metal is used for the frame.

Mark with a cross (☒) the ferrous metal in the list below:

Brass **Zinc** **Mild steel** **Aluminium**

(1)

(ii) The plastic handle has been injection moulded from a thermoplastic.

Mark with a cross (☒) the thermoplastic in the list below:

Epoxy resin **ABS** **Carbon fibre** **Polyester**

(1)

(b) The ferrous metal used for the frame has a plastic dip coated surface finish.

Give **two** reasons why the ferrous metal used for the frame has a plastic dip coated surface finish.

1

2

(2)



(c) (i) The wooden work surface is made from 25 mm thick plywood.

Use sketches and notes to show the construction of plywood.

(2)

(ii) Give **three** properties of plywood that make it suitable for the wooden work surface.

1

2

3

(3)

(iii) Describe **one** reason why plywood is used for the wooden work surface rather than chipboard.

.....

.....

(2)

Q2

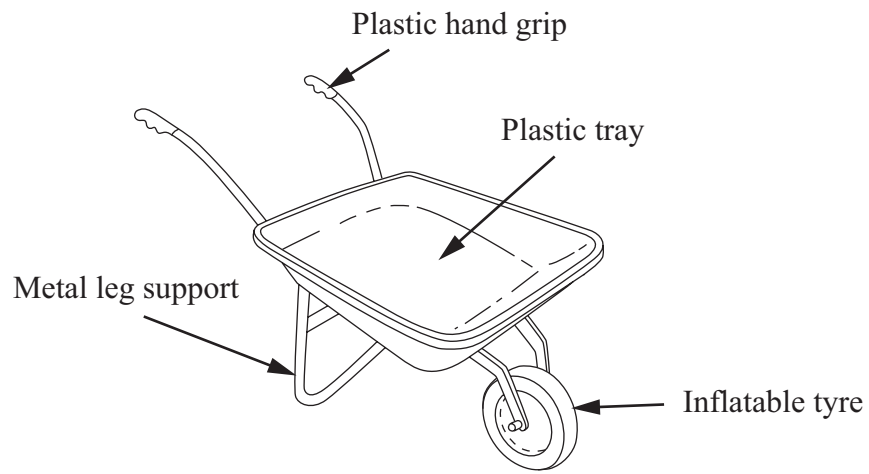
(Total 11 marks)

--	--



3. The drawing below shows a wheelbarrow.

It is sold in do-it-yourself (DIY) stores.



(a) Two specification points for the wheelbarrow are that it must:

- carry heavy loads
- go over rough, wet ground.

Under each of the following headings, give **one** more point that should be included in the specification for the wheelbarrow.

For each point, give **one** reason why it should be included.

(i) **Quality**

Point

Reason

.....

(2)

(ii) **Environment**

Point

Reason

.....

(2)

(iii) **Safety**

Point

Reason

.....

(2)

(b) The leg support is made from mild steel tube.

One reason for making the leg support out of mild steel tube is that it can be easily joined by welding.

Give **two** other reasons why mild steel tube is a suitable material from which to make the leg support.

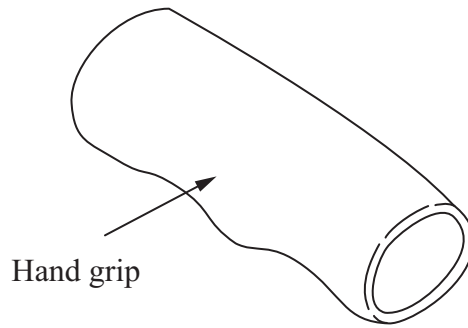
1

2

(2)



(c) The plastic hand grip is manufactured using the injection moulding process.



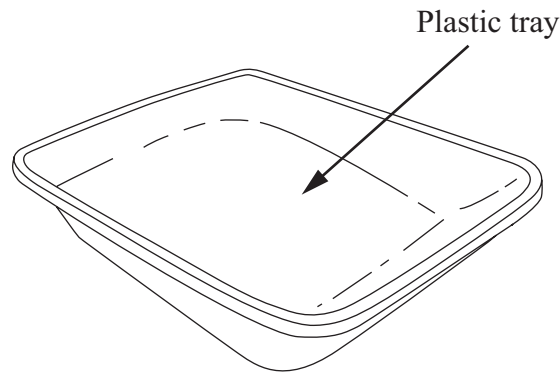
Give **two** reasons why the injection moulding process is suitable to manufacture the plastic hand grip.

1

2

(2)

(d) The plastic tray is made from ABS.



Give **two** properties of ABS that make it suitable for the tray.

For each property give **one** reason why it makes ABS suitable for the tray.

Property 1

Reason

.....

Property 2

Reason

.....

(4)



(e) The manufacturer of the wheelbarrow uses sampling during production.

Explain **one** reason for using sampling during the manufacture of the wheelbarrow.

.....
.....
(2)

(f) The leg support is painted.

Explain **one** reason why the leg support is painted.

.....
.....
(2)

(g) Two purposes of the wheelbarrow are to:

- carry heavy loads
- go over rough, wet ground.

Explain, under the following headings, how the wheelbarrow achieves these purposes.

(i) Carry heavy loads.

.....
.....
.....
.....
(2)

(ii) Go over rough, wet ground.

.....
.....
.....
.....
(2)

(Total 22 marks)

Q3

TOTAL FOR PAPER: 44 MARKS

END



BLANK PAGE

