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FOR OFFICIAL USE

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1330/31/01

NATIONAL
QUALIFICATIONS
2012

TUESDAY, 15 MAY
1.00 PM – 2.45 PM

**GRAPHIC
COMMUNICATION**
STANDARD GRADE
Credit Level

Fill in these boxes and read what is printed below.

Full name of centre Town

Forename(s) Surname

Date of birth

Day	Month	Year	Scottish candidate number	Number of seat
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- 110 marks are allocated to this paper: 40 marks for Knowledge and Interpretation
70 marks for Drawing Abilities
- Answer all questions.
- Read each question carefully before you answer.
- Written answers may be in **ink** or **pencil**.
- Drawings and sketches **must be in pencil**.
- Sketches need only be in line form—do not spend time rendering.
- Dimensions are given in millimetres or as stated.
- Orthographic drawings are in third angle projection.
- For each question, the element being tested and the mark allocation are shown in brackets, eg (DA 5) means a question on Drawing Abilities worth 5 marks.
- At the end of the examination**
 - check that your name is on every sheet;
 - put the sheets in correct numerical order;
 - place this sheet on top of the others;
 - join all sheets together by **stapling** at the top left-hand corner;
 - before leaving the examination room, you must give these sheets to the Invigilator (if you do not you may lose all the marks for this paper).

	KI	DA
1		
2		
3		
4		
5		
6		
7		
8		
9		
Total Marks		



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Using CAD software to produce new lamp designs has many advantages over manual methods. Speed of production and accuracy are two of these.

(a) State **three** other advantages of using CAD software when producing these designs.

- 1
- 2
- 3

KI 3

Hardware and software costs are two disadvantages of CAD.

(b) State **three** other disadvantages of CAD when producing these designs.

- 1
- 2
- 3

KI 3

(c) State **two** input devices that could be used to transfer a company's existing manual drawings to the computer's memory.

Device 1 **Device 2**

KI 2

(d) State **one** reason why a company always creates a backup at the end of the day.

Reason

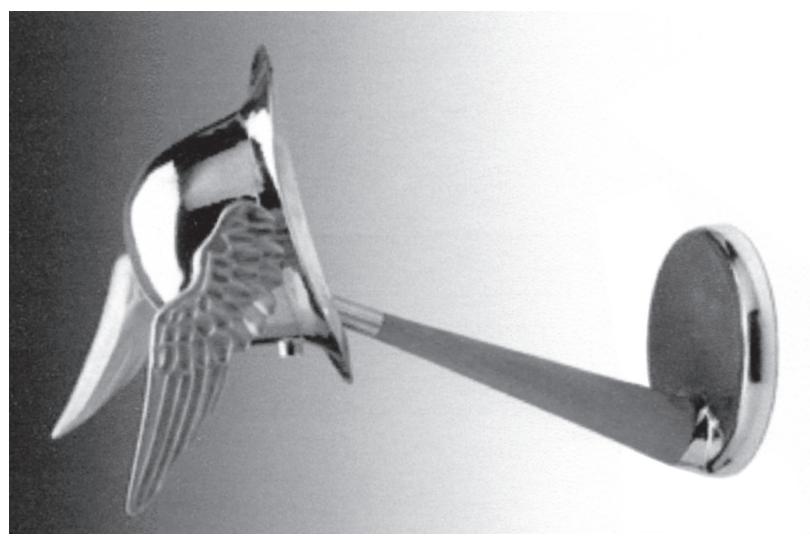
KI 1

(e) Describe, with reference to pen and paper movement, how a drum plotter works.

Answer

KI 1

Total (KI 10)



The elevation, end elevation and plan of a pipe elbow are shown in **Drawing X**.

Six pictorial views are shown below.



- 1
- 2
- 3
- 4
- 5
- 6

(a) State which **two** of the pictorial views 1 to 6 above represent the pipe elbow shown in **Drawing X**.

Answer 1 **Answer 2** **KI 2**

(b) State the name given to these types of pictorial view.

Answer **KI 1**

(c) State the name given to the type of drawing shown in **Drawing X**.

Drawing **KI 1**

(d) State the purpose of the symbol shown at **Symbol Y**.

Purpose **KI 1**

Eight sectional views 7 to 14 are shown opposite.

(e) State which **two** are correct sections of the pipe elbow.

Section AA **Section BB** **KI 2**

(f) State **two** factors that affect the scale of a drawing.

Answer 1

.....

Answer 2

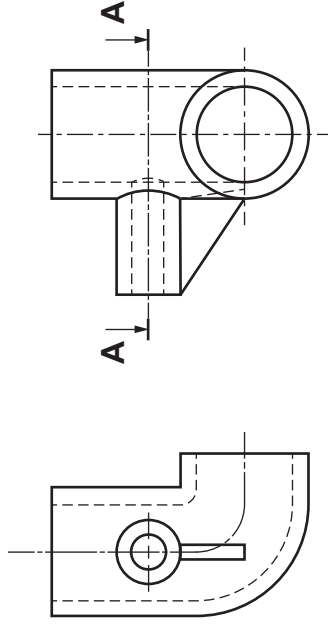
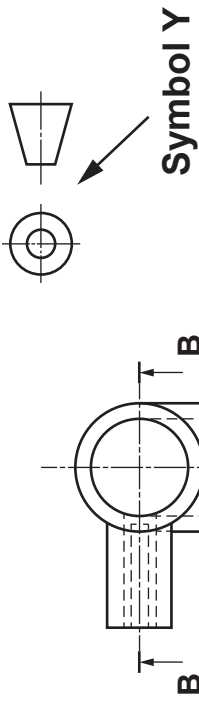
..... **KI 2**

(g) State what is meant by scale 1:1.

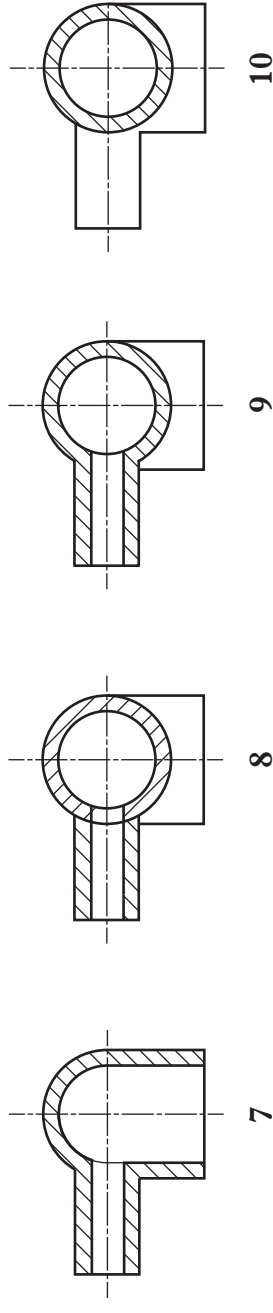
Answer **KI 1**

Total (KI 10)

Drawing X



END ELEVATION FRONT ELEVATION

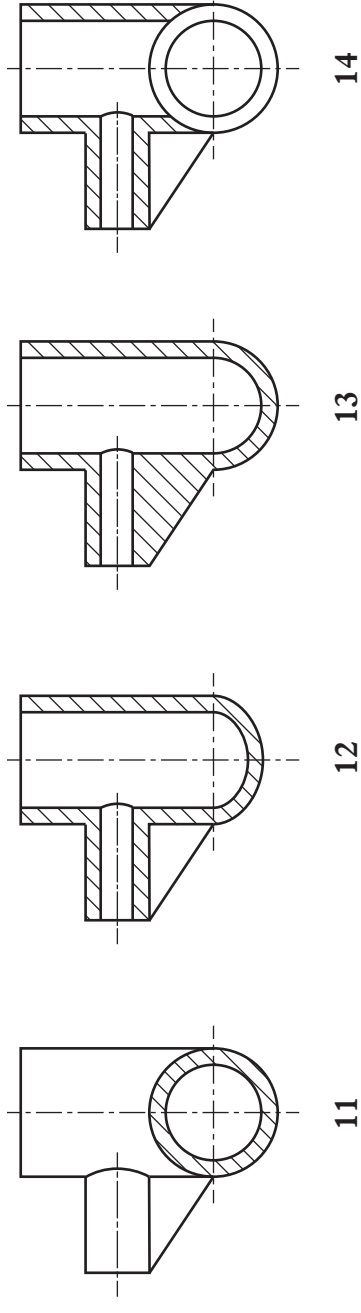


7

8

9

10



11

12

13

14

Animation, simulation and computer modelling are now widely used in many industries.

- (a) Describe the main difference between animation and simulation.

Answer

KI 1

Racing drivers use simulators to train.

- (b) State **two** advantages of using a simulator while training to be a racing driver.

1

.....

2

KI 2

When designing a new racing car, concepts can be tested using simulations.

- (c) State **one** way in which computer simulation can help when designing a new racing car.

Answer

KI 1

.....

Computer animation is now used in the architectural industry when producing new building designs.

- (d) State how computer animation of a new design could be used by the architect.

Answer

KI 1

.....

- (e) State **one** other industry that uses computer animation and give an example of its use.

Industry

Example

KI 2

.....

- (f) State **one** advantage and **one** disadvantage of computer modelling of a new building design.

Advantage

.....

Disadvantage

KI 2

.....

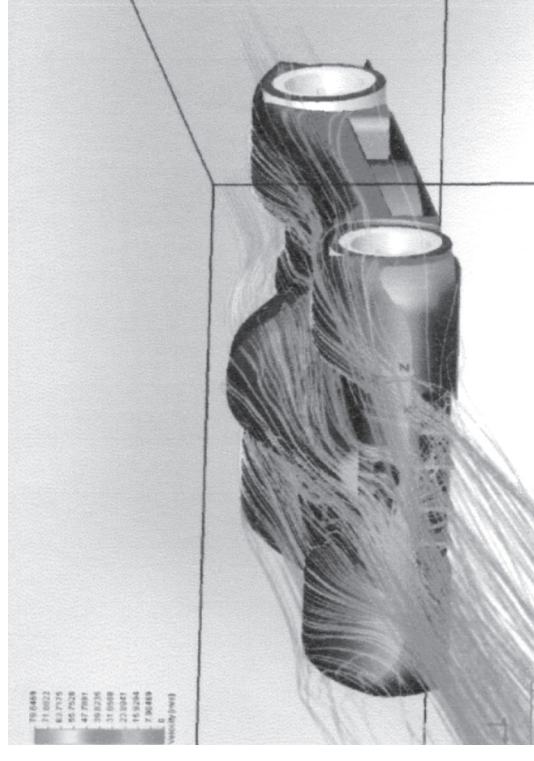
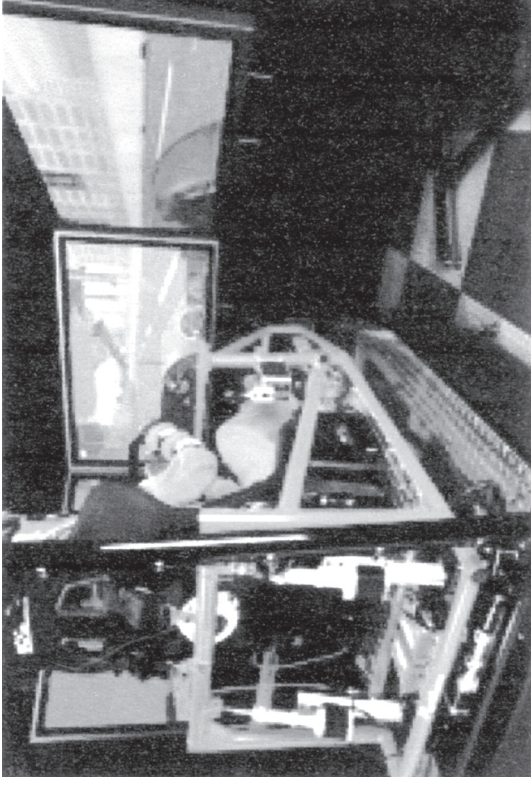
- (g) State the names of **two** types of computer generated model.

Model 1

Model 2

KI 2

Total (KI 11)



Many companies now use different software packages and output devices.

(a) State the type of software package that would be used for the following.

(i) Producing an advertising leaflet containing text and graphics.

Answer

(ii) Producing a fully dimensioned working drawing.

Answer

(iii) Producing a fully rendered graphic of a new house design.

Answer **KI 3**

(b) State two output devices that could be used to obtain hard copies of a computer rendered graphic.

Device 1 **Device 2** **KI 2**

(c) State what is meant by the term compatible when applied to computer software.

Answer

..... **KI 1**

(d) State what is meant by the term layering when used in a CAD software package and give an example of its use.

Layering

.....

Example

..... **KI 2**

(e) State one advantage of a CAD library when working on new designs.

Advantage

..... **KI 1**

Total (KI 9)



5

A pictorial view of a tape dispenser is shown.

Draw, in the positions indicated:

- (a) the elevation;
- (b) the plan;
- (c) the end elevation.

Show hidden detail.

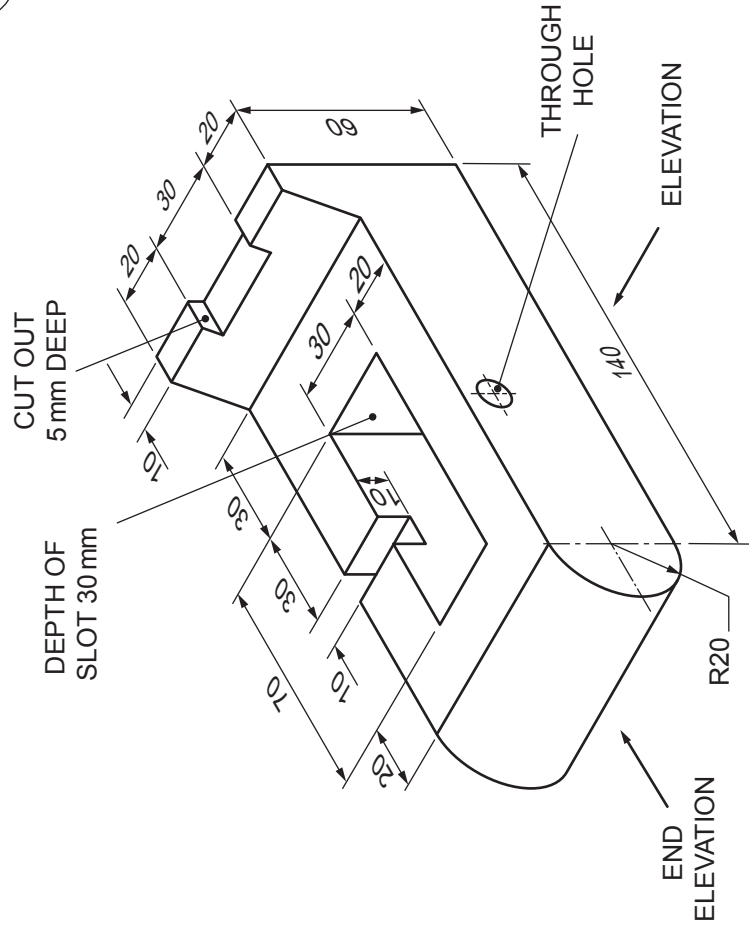
DA 5

DA 5

DA 4

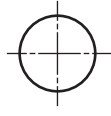
Total (DA 14)

5

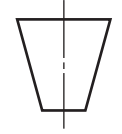
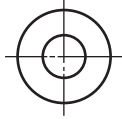


PICTORIAL VIEW

PLAN



END ELEVATION



ELEVATION

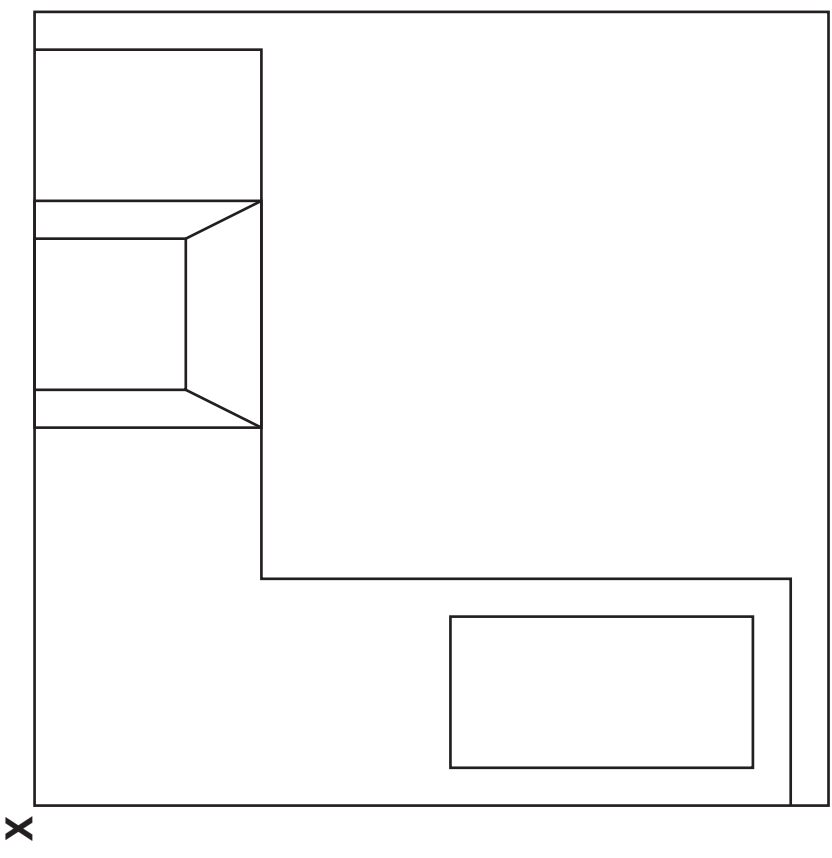
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6

The elevation, end elevation and plan of a kitchen are given. Draw a planometric view of the kitchen using the given start X. Take all sizes from the given views.

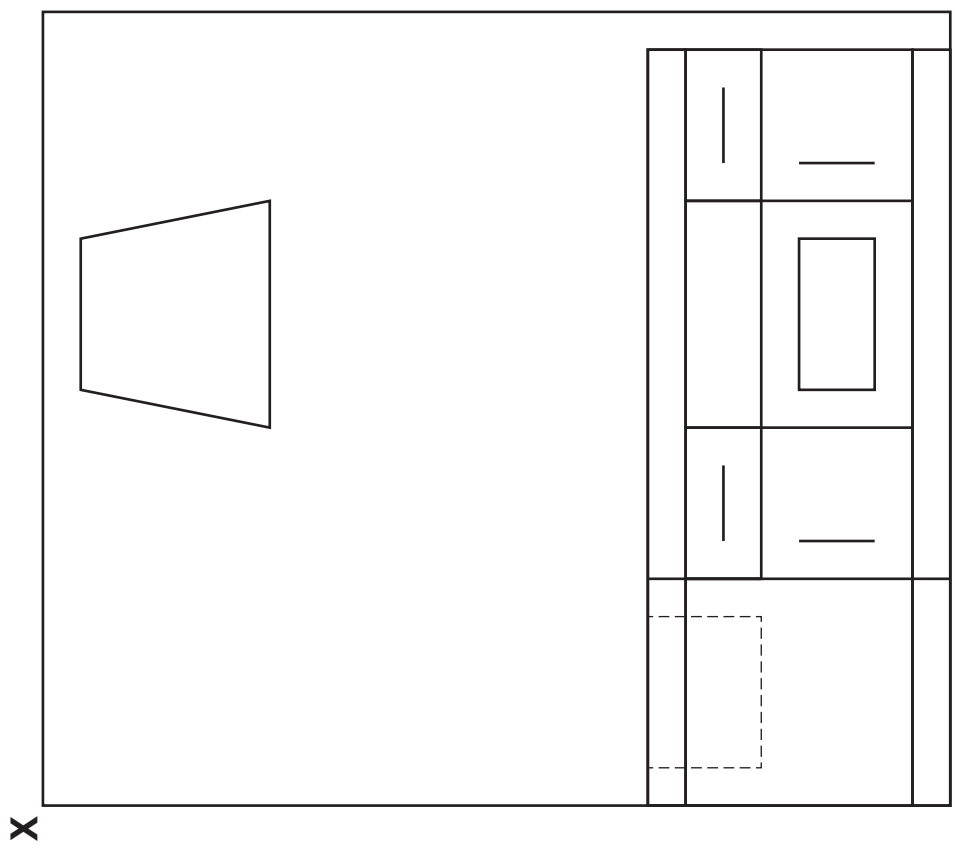
Do not show hidden detail.

Total (DA 12)



X

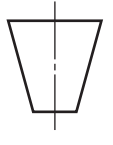
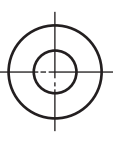
PLAN



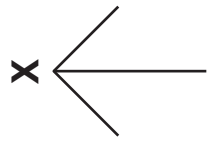
X

ELEVATION

END ELEVATION



Candidate's Name _____



6

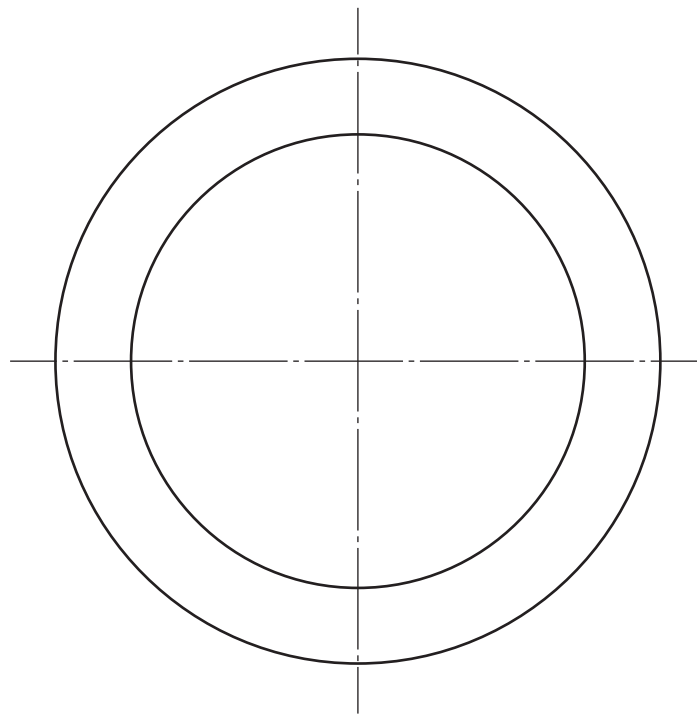
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7

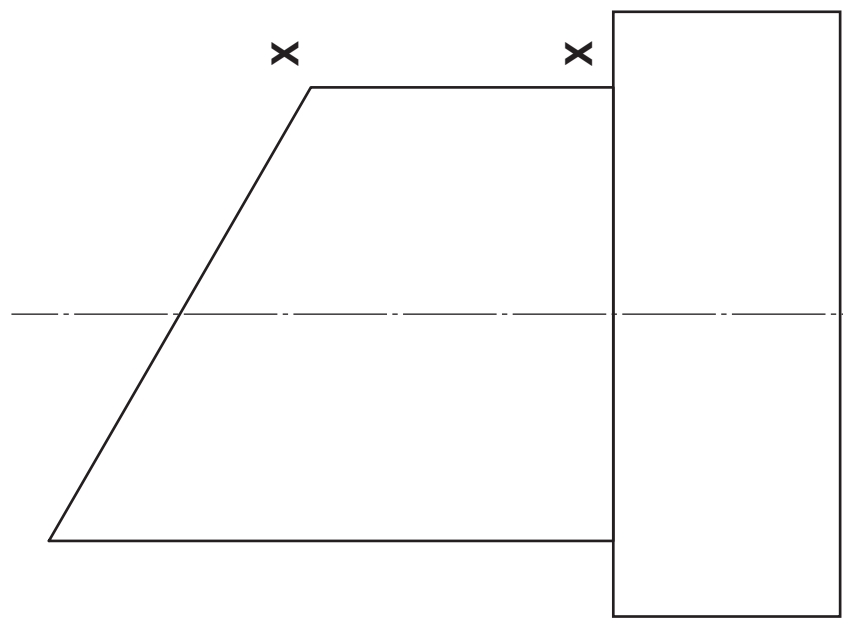
The elevation and plan of a vacuum cleaner attachment are given.
A pictorial view is also shown.

Draw, in the given positions:

- (a) the end elevation; **DA 8**
 - (b) the development of Part A using **X-X** as a given starting point. **DA 6**
- Total (DA 14)**

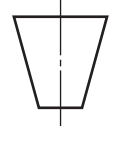


PLAN

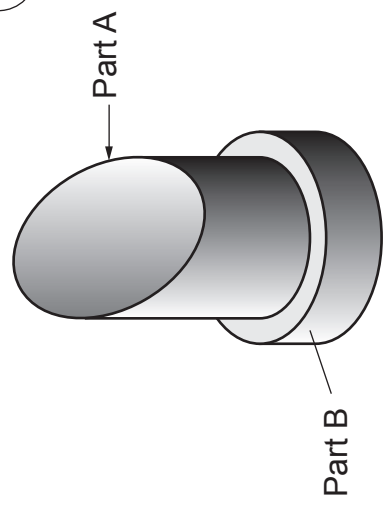


ELEVATION

END ELEVATION

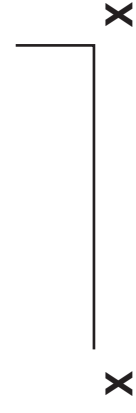


7



Pictorial View

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DEVELOPMENT OF PART A

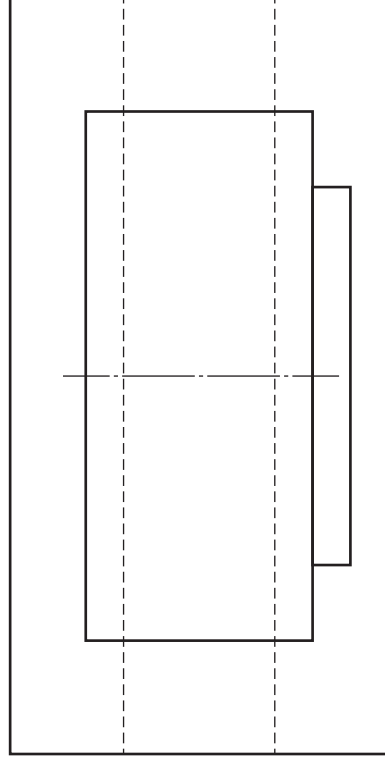
Candidate's Name _____

The elevation, end elevation and plan of a carbon monoxide tester are given.

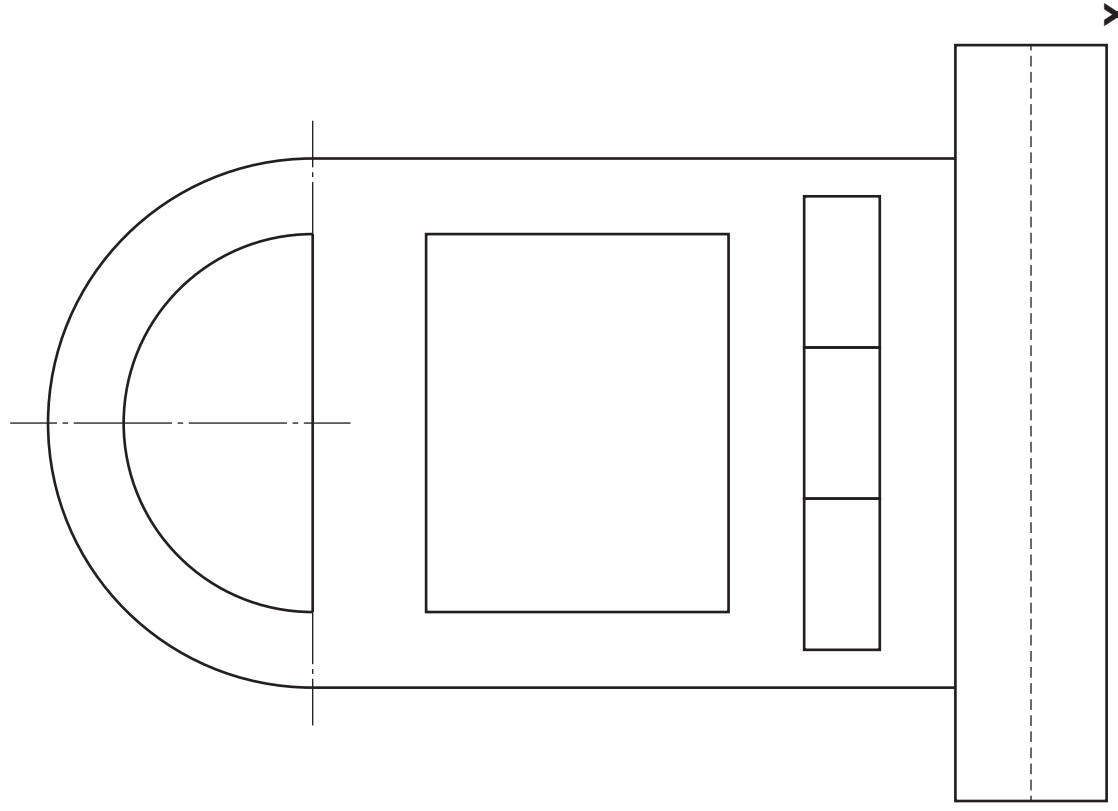
Draw, full size, an isometric view of the carbon monoxide tester, using the given start X.

Do not shown hidden detail.

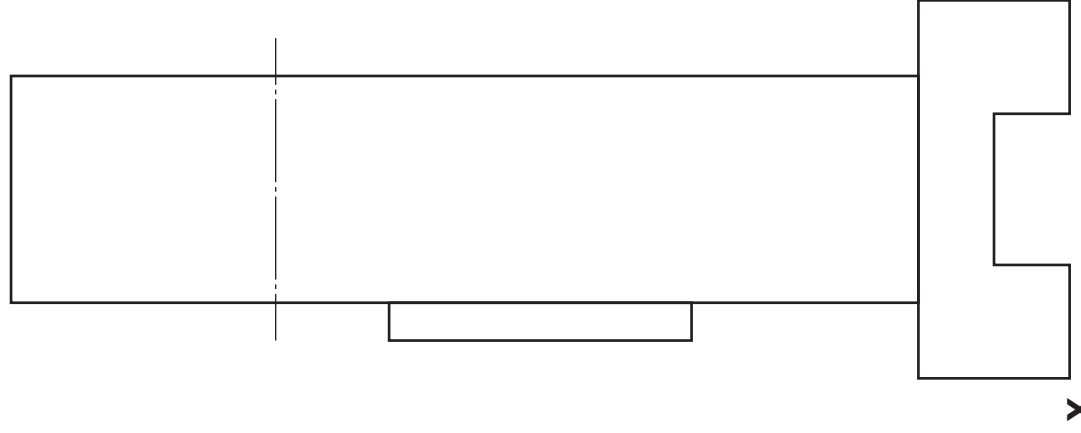
Total (DA 16)



PLAN



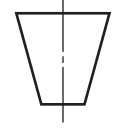
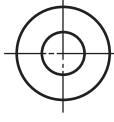
ELEVATION



END ELEVATION



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Orthographic views of the components which make a till roll holder are shown.
A pictorial view of the assembled holder is also shown.

Draw, to the given sizes:

(a) the end elevation of the assembled holder;

Show hidden detail.

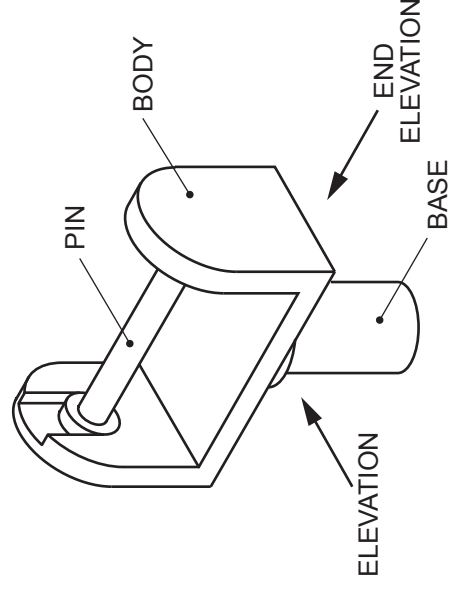
(b) the sectional elevation of the assembled holder on **X-X**.

Do not show hidden detail.

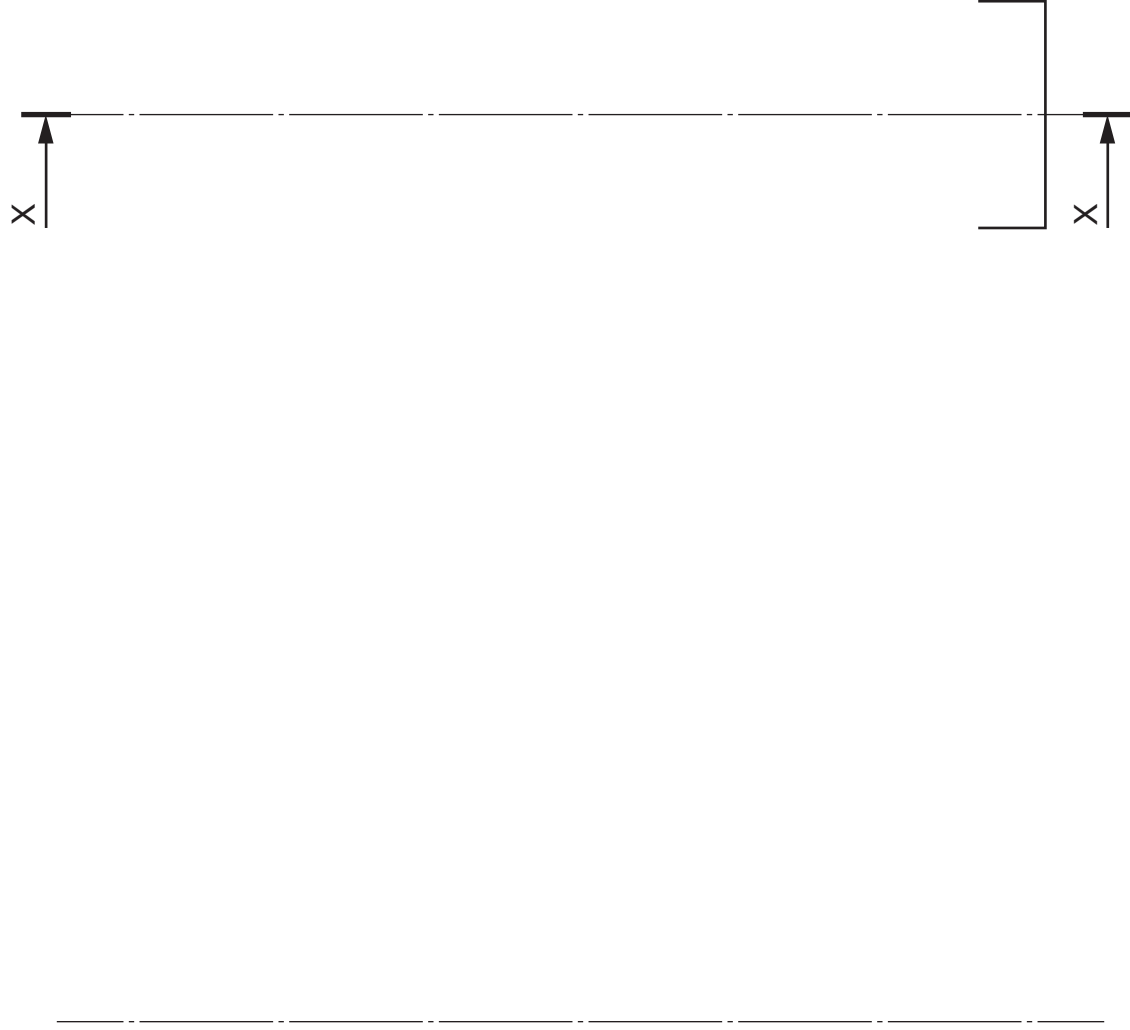
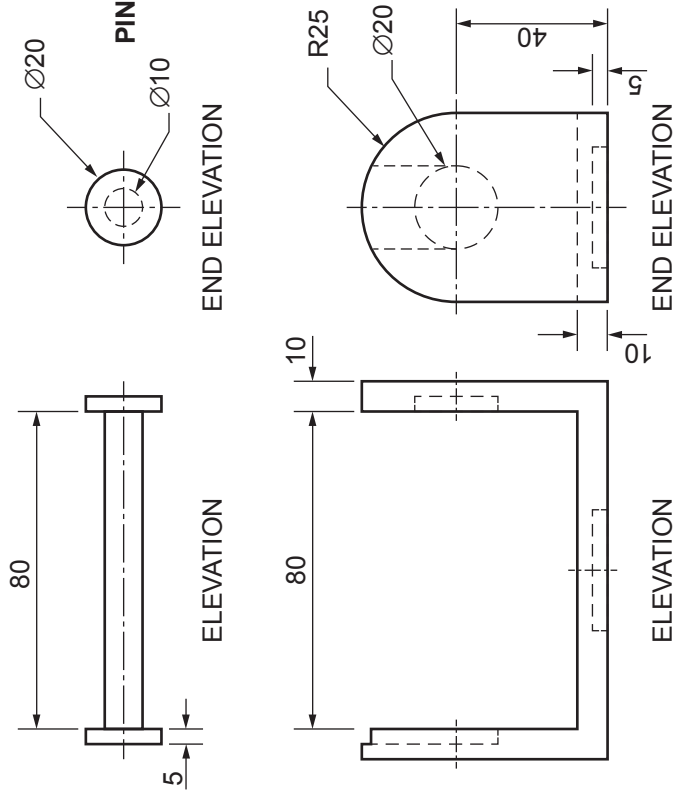
Total (DA 14)

DA 5

DA 9

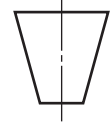
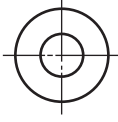


PICTORIAL VIEW



SECTIONAL ELEVATION ON X-X

END ELEVATION



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