

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

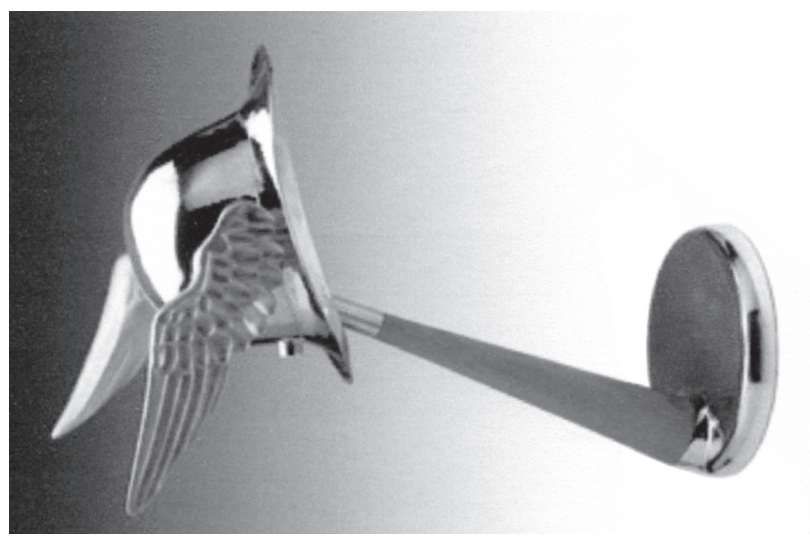
KI 1

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

Answer

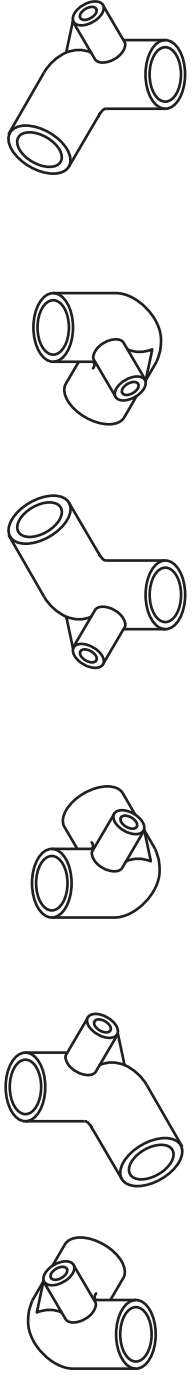
KI 1

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

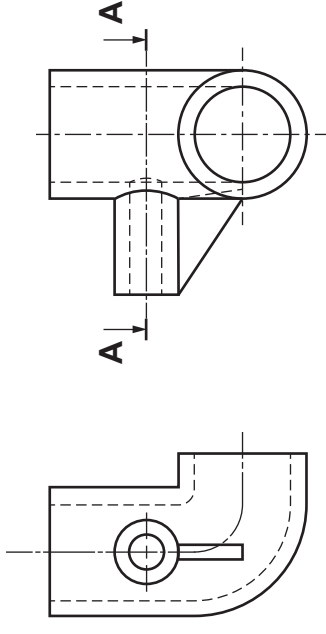
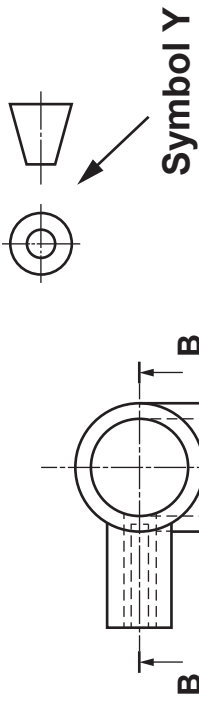
..... **KI 2**

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

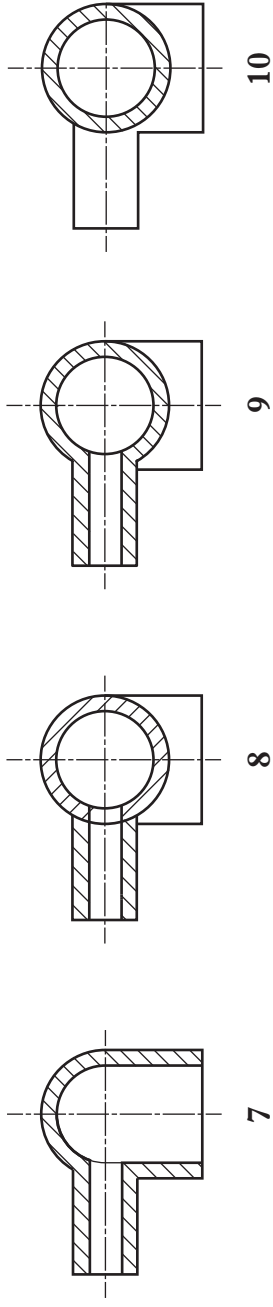
Answer **KI 1**

Total (KI 10)

Drawing X



END ELEVATION FRONT ELEVATION

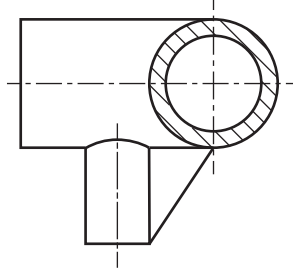


7

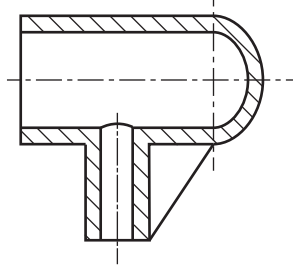
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9

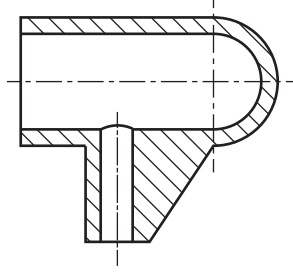
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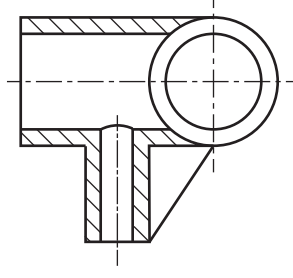
11



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

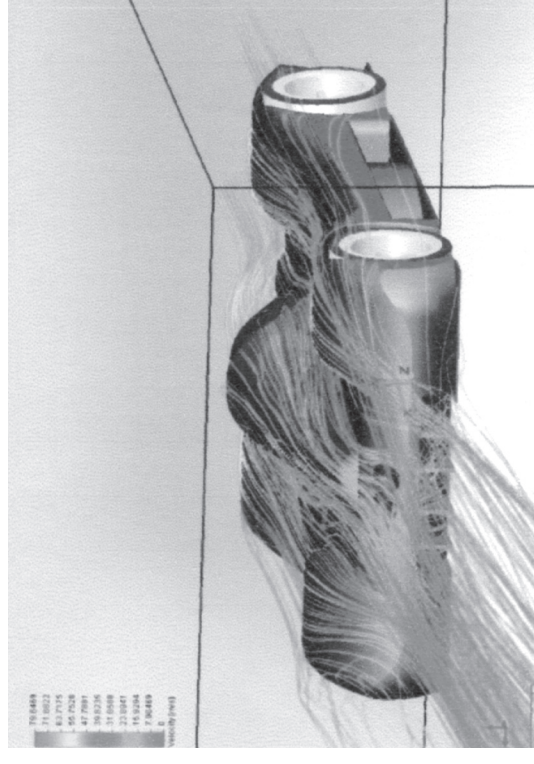
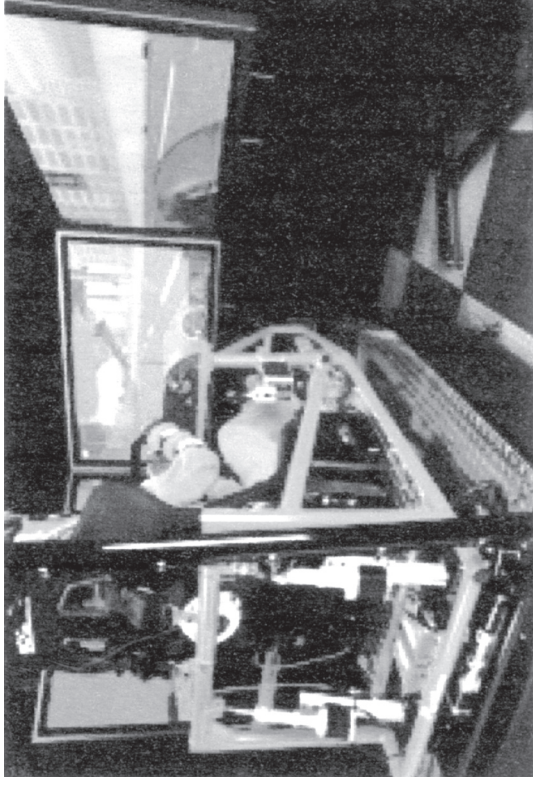
- (g) State the names of **two** types of computer generated model.

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)

