

CAD / CAG - The influence of CAD / CAG systems on Industry & Society

Computers have largely replaced drawing boards in industry and commerce. A CAG system of drawing offers many advantages over the traditional drawing board method. Although there are also disadvantages these tend to be outnumbered by the advantages.



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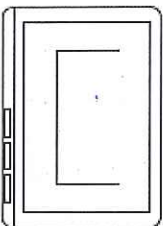
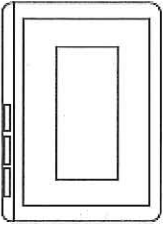
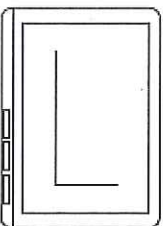
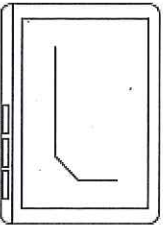
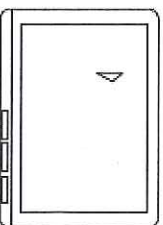
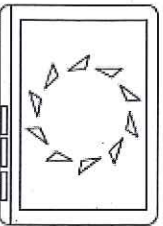
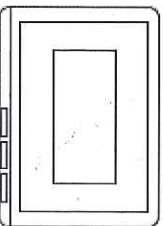
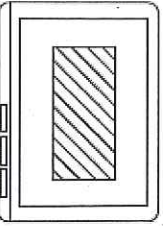
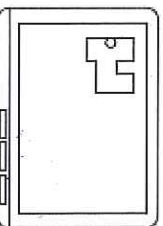
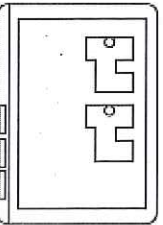
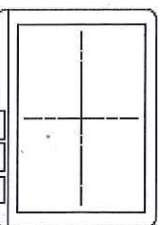
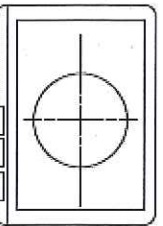
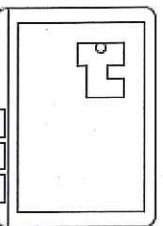
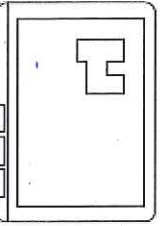
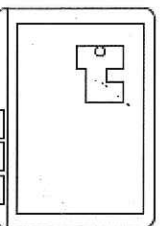
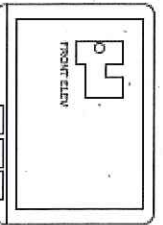
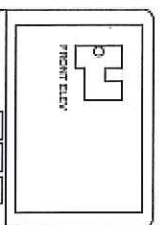
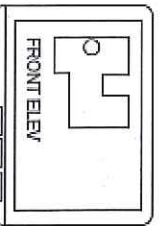


Statement	Adv +	Disadv -
Initial costs of buying computer systems and software can be expensive for companies.		
Retraining of staff who are used to drawing with traditional methods.		
Storage and retrieval - Drawings can be stored on hard drive, floppy disc etc.		
Storage and retrieval - Less storage space is required than paper drawings.		
Storage and retrieval - Drawings can be repeatedly printed with no deterioration in quality		
Ease of Modification - Changes can be made quickly and easily, this reduces time and cost, which in turn increases productivity.		
A great deal of time can be taken up converting existing paper drawings to computer drawings		
Repetitive elements(library) - Items that you design need only be drawn once, saved to a library file, then retrieved and positioned each time they are required on a drawing. This saves time and effort, which increases productivity.		

Read each statement and give each one either a + if you think this is an advantage or a - if you think it is a disadvantage

Statement	Adv +	Disadv -
Drawing speed and drawing quality - Drawing production is much faster using CAD than using traditional methods, so the company will save time and money.		
Drawing speed and drawing quality - The quality of printed drawings is also much higher when using CAD.		
As computer systems can be used to produce quicker CAD drawings less people need to be employed.		
Standardisation of drawings - Standardisation of drawings is often determined by drawing standards such as BSI. Standardisation of drawing layouts and styles can be easily be created in the 'in-house' or corporate style adopted by the operator or the company.		
Drawing size and flexibility - Drawings can be enlarged or reduced with no loss of detail		
Power failure - staff would be unable to produce work.		

The following drawings show the results of applying 9 CAD commands. State the **single** CAD command used in each case.

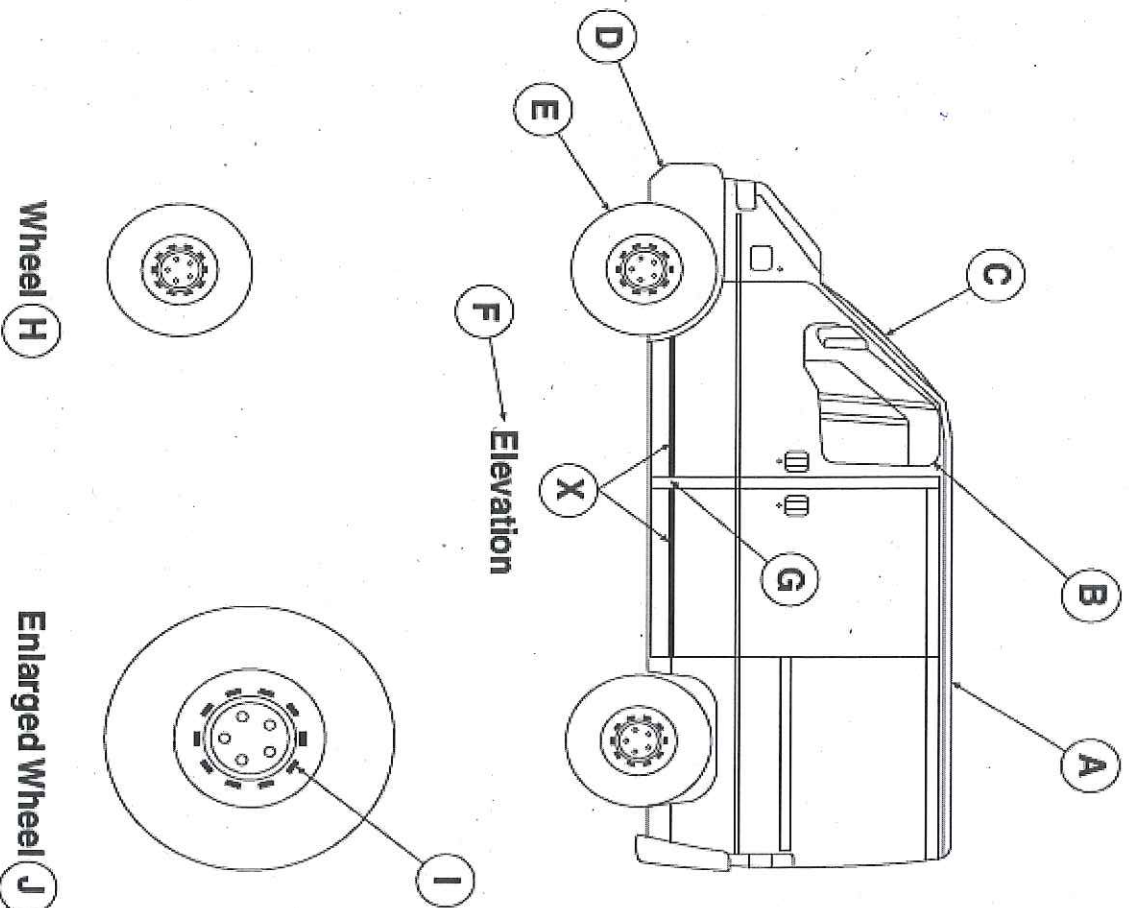
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Total (KI 9)

Drawings of a van are shown opposite. State the single CAD command that would be used to create the following details.

- (a) The straight edge shown at A.
Command
- (b) The rounded corner shown at B.
Command
- (c) The curved surface shown at C.
Command
- (d) The angled corner shown at D.
Command
- (e) The circumference of the wheel shown at E.
Command
- (f) The name of the view shown at F.
Command
- (g) The gap in the line X shown at G.
Command
- (h) The identical wheel shown at H.
Command
- (i) The identical features around the wheel shown at I.
Command
- (j) The enlarged view of the wheel shown at J.
Command

Total (K1 10)



4 In industry, computers are now used to produce many different types of products.

(a) Complete the following table by adding the type of software package used to accomplish the given task.

Department	Task	Software Package Type
Administration Department	The production of letters to the firm's clients	
Drawing Office	The production of new working drawings	
Sales and Marketing Department	The production of advertising leaflets containing text and graphics	
Sales and Marketing Department	The production of promotional graphics showing leaflet, slide and tape.	

K1 4

(b) State the name of a hardware device that the firm could use to send designs to offices abroad.

Hardware Device K11

(c) State what is meant by the term backup when applied to computer data.

Answer K11

Total (K1 6)

