



FOR OFFICIAL USE

12	18	5					

National Qualifications Examination Practice

Mark

35

SQ21/N5/01

Graphic Communication CAD & Engineering Graphics 1

Date | Not applicable

Duration | Not applicable

Full name of centre

Town

Forename(s)

Surname

Number of seat

Date of birth

Day

Month

Year

D	D
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M	M
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Y	Y
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Scottish Candidate Number

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Total marks — 35

Attempt **ALL** questions.

All dimensions are in mm.

All technical sketches and drawings use third angle projection.

You may use rulers, compasses or trammels for measuring.

Use **blue** or **black** ink.

All questions original

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1

CAD is an important tool used by designers and engineers throughout the world.

a. State the full name of the acronym, 'CAD'.

1

b. Describe three advantages for designers or engineers of using CAD.

i. _____

1

ii. _____

1

iii. _____

1

c. Describe the meaning of the following 3D CAD terms. You should use sketches to support your answer.

i. **"Profile"**

2

ii. **"Extrude"**

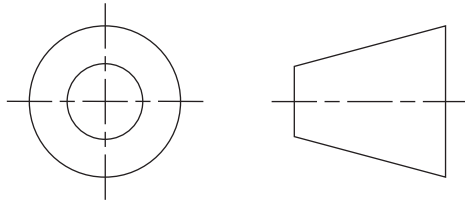
2

iii. **"Revolve"**

2

iv. **"Fillet"**

2



MARKS DO NOT WRITE IN THIS MARGIN

Projection symbol

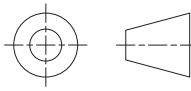
2 A projection symbol is shown above. A projection symbol used on production and technical drawings.

a. State the specific name of this projection symbol.

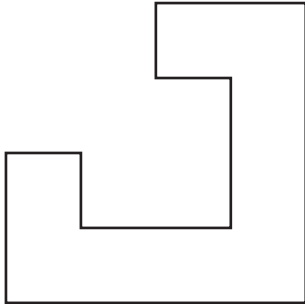
1

b. Explain the technical information provided by this symbol. You should use sketches to explain your answer.

2



All sizes in mm



A technical drawing is shown above.

c. Add the following details to the technical drawing to BS8888:

- i. Missing outlines/edges **4**
- ii. Hidden Detail **5**
- iii. View Titles **1**
- iv. Sufficient dimensions to create a 3D CAD model. **5**

The drawing shows three orthographic views of a model chair. The **PLAN** view is a square with a total height of 60. The **END ELEVATION** shows a vertical backrest of height 60, a horizontal seat of height 10, and two vertical legs of height 50. The seat is 40 units wide, with 10 units of overhang on each side. The **ELEVATION** shows a triangular seat with a height of 10 and a base of 40 units, with 10 units of overhang on each side.

DRAWING TITLE	ORTHOGRAPHIC DRAWING MODEL CHAIR	
PROJECT TITLE	GRAPHIC COMMUNICATION CAD PRACTICE	
DRAWN BY	DESIGNCLASS.CO.UK	
SCALE	NTS	
LEVEL	NATIONAL 5	
DATE	SEPTEMBER 2018	
ALL SIZES IN MM IF IN DOUBT, ASK!		

Technical Drawing

3. A technical drawing for a model chair is shown above.
- Describe, using the **correct dimensions and 3D CAD modelling terms**, how you would use 3D CAD software to model the model chair. You should use sketches to support your answer.

5

3. (continued)

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