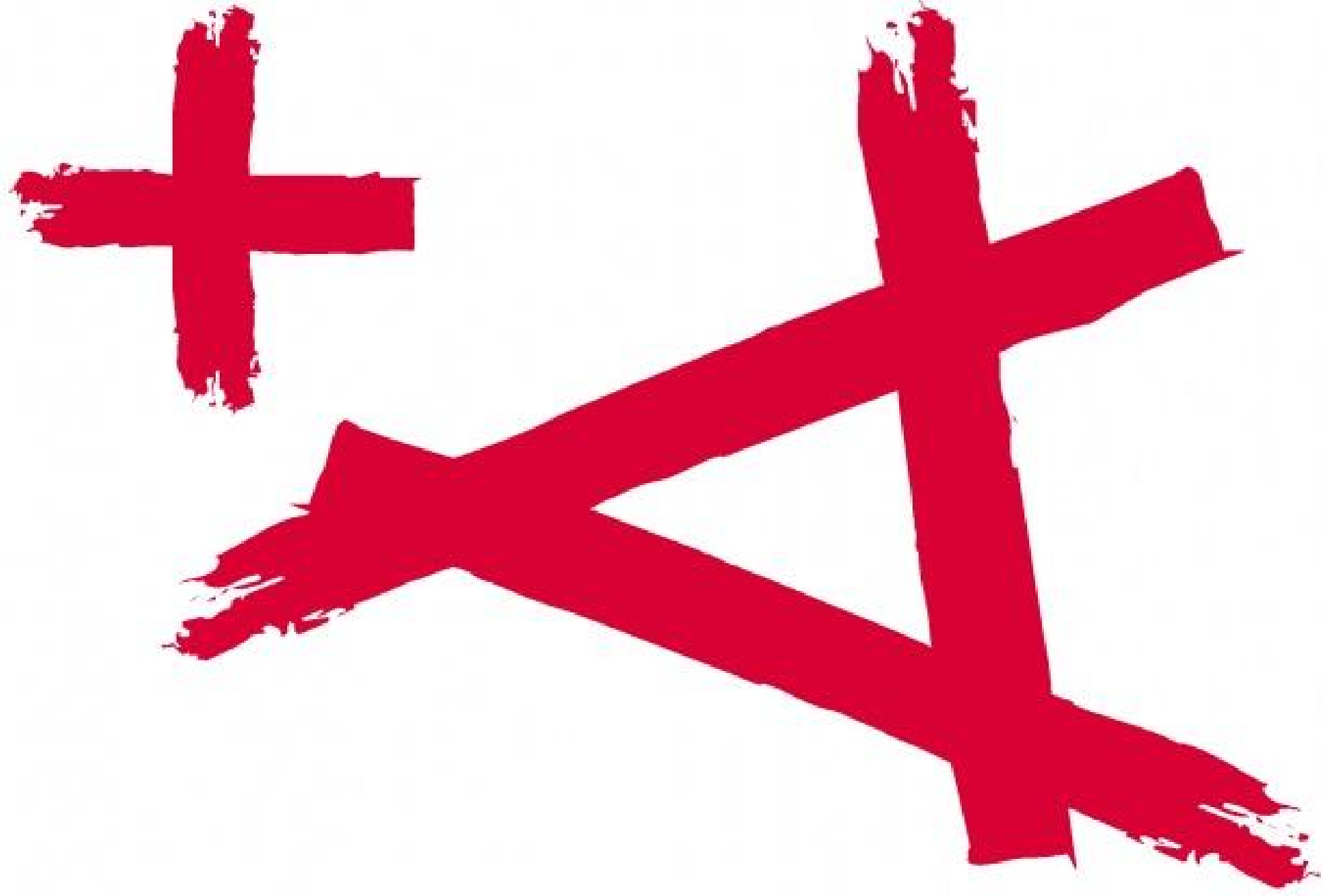
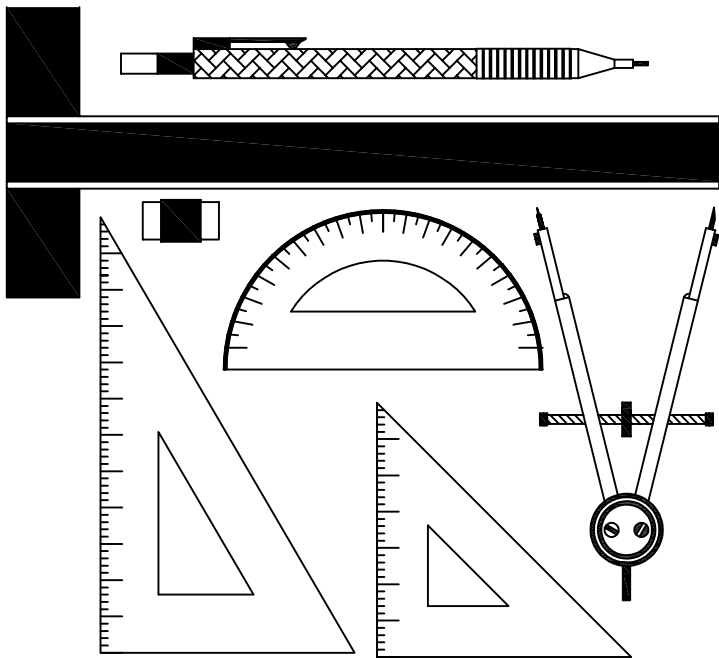






MARKING GUIDELINES



NATIONAL SENIOR CERTIFICATE EXAMINATION

2021

ENGINEERING GRAPHICS AND DESIGN

PAPER 1

MARKS: 200

TIME: 3 HOURS

FOR OFFICIAL USE ONLY									
QUESTION	SECTION	MARK			MODERATED			MAXIMUM	CODE
1	CIVIL ANALYTICAL							20	
2	INTERPENETRATION & DEVELOPMENT							40	
3	TWO-POINT PERSPECTIVE							40	
4	CIVIL DRAWING							100	
TOTAL								200	

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of **6 pages** including the cover page and **4 questions**.
2. **All** questions must be answered.
3. Unless specified otherwise, all questions are in **First-angle Orthographic Projection**.
4. Unless specified otherwise, all questions are to be completed to a **scale of 1:1**.
5. **All** answer sheets must be restapled in numerical order, even questions that have not been answered.
6. All **construction work** must be shown.
7. Print your **examination number** neatly on each page.
8. Use only the **answer sheets** provided.
9. Your drawings should reflect **neatness** and **accuracy**.
10. All dimensions or detail not given must be **assumed** in **good proportion**.
11. Your drawings should comply with SANS 10143.

CHECKED BY

EXAMINATION NUMBER



1.1 Which ERF is to the SOUTHWEST of ERF 3002?

Downloaded from ebsourceza.com

CIVIL
ANALYTICAL

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11

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[illegible]

QUESTION 2

INTERPENETRATION
& DEVELOPMENT

The drawings below show the INCOMPLETE Front View, COMPLETE Top View and Right View of a right **SQUARE PRISM** made to fit around a right regular **HEXAGONAL PRISM**.

Draw the following:

- 2.1 the complete Front View clearly showing the line of interpenetration formed between the two solids.
- 2.2 the surface development of the square branch piece.

Show all hidden detail.
Show all construction.

ASSESSMENT CRITERIA

You will be assessed on your ability to do the following:

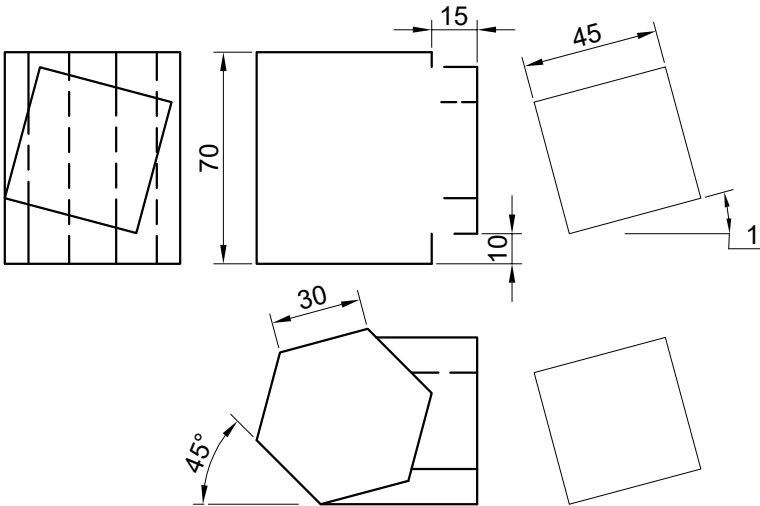
- draw the given incomplete Front View

4
- complete the Front View

23
- show necessary construction

2
- draw the development of the square branch piece

11



FV	27
CON	2
DEV	11

40 MARKS

EXAMINATION NUMBER

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ANSWER SHEET 2

QUESTION 3

TWO-POINT
PERSPECTIVE

The figures show the three views of a house with an open garage and verandah.
Draw a neat two-point perspective view of the house and garage showing the inside of the garage.

- PP - Picture Plane
HL - Horizon Line
GL - Ground Line
SP - Station Point

Neatly label the vanishing points RVP and LVP.

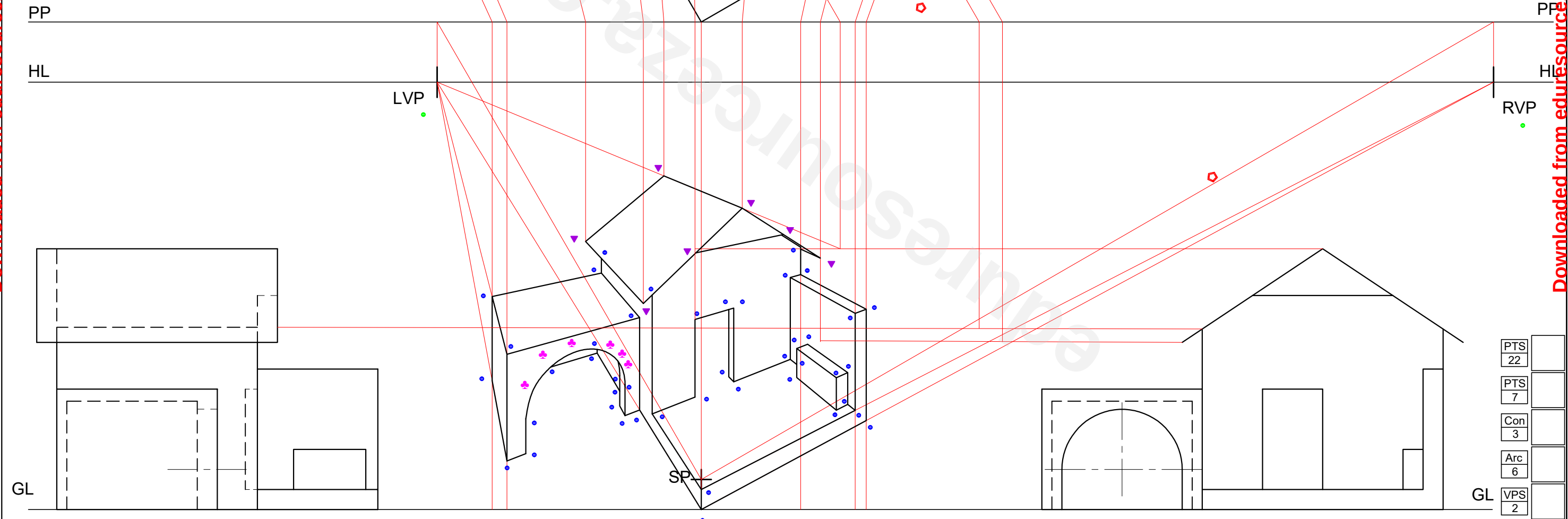
NO HIDDEN DETAIL IS REQUIRED.

ASSESSMENT CRITERIA

You will be assessed on your ability to do the following:

- determine and label the vanishing points 2
- draw the two-point perspective view 38

PTS	•	44/2 =	22
PTS	▼	=	7
CON	◊	=	3
Arc	✱	=	6
VPS	•	=	2
40			



PTS	22
PTS	7
Con	3
Arc	6
VPS	2

40 MARKS

EXAMINATION NUMBER

ANSWER SHEET 3

QUESTION 4

CIVIL
DRAWING

Assessment Criteria

Sectional Elevation

1	Ceiling Battens	2	
2	Wall Plates	2	
3	Ceiling Board	1	
4	Truss Plates	4	
5	Roof Truss	5	
6	Purlins	4	
7	Roof	1	
8	Fascia Boards	2	
9	Sectioned Walls	4	
10	Sectioned Window	5	
11	Floor & Foundation	6	
12	DPC	2	
13	Hatching	9	
14	Doorway	3	
15	Labels	2	

Subtotal 52

Floor Plan

16	Walls	7	
17	Hatching	4	
18	Windows	4	
19	Door	3	
20	Ramp	5	
21	Cutting Plane	2	
22	Labels	2	

Subtotal 27

West Elevation

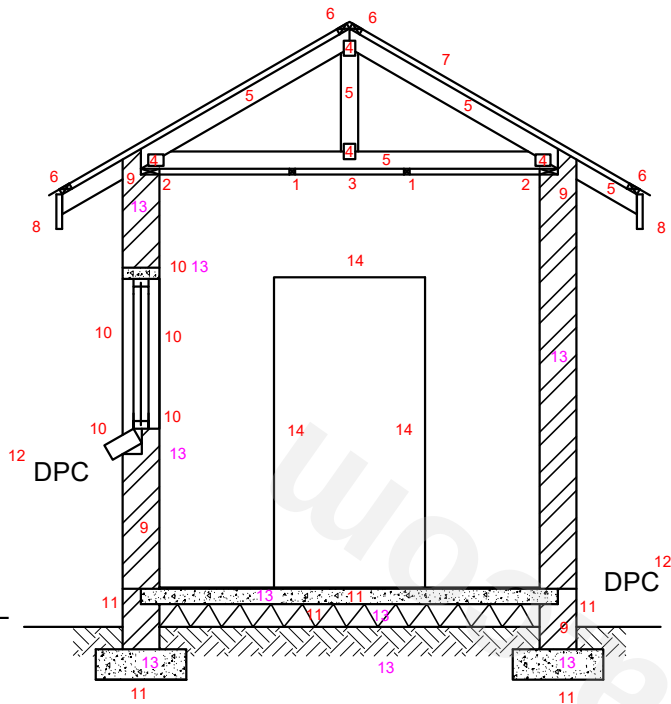
23	Ramp	2	
24	Walls	5	
25	Window	4	
26	Fascia Board	2	
27	Roof	7	
28	Label	1	

Subtotal 21

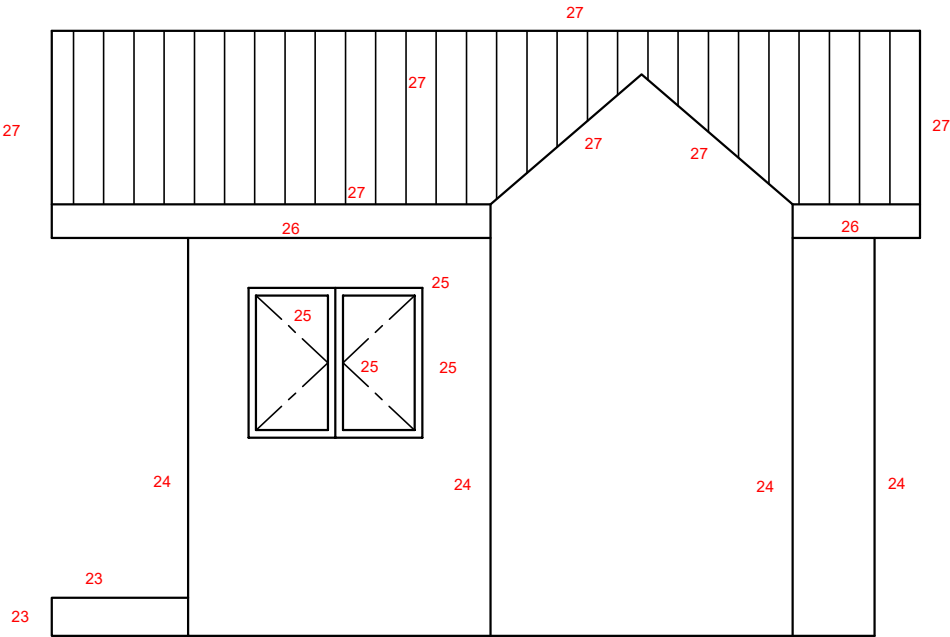
TOTAL 100

EXAMINATION NUMBER

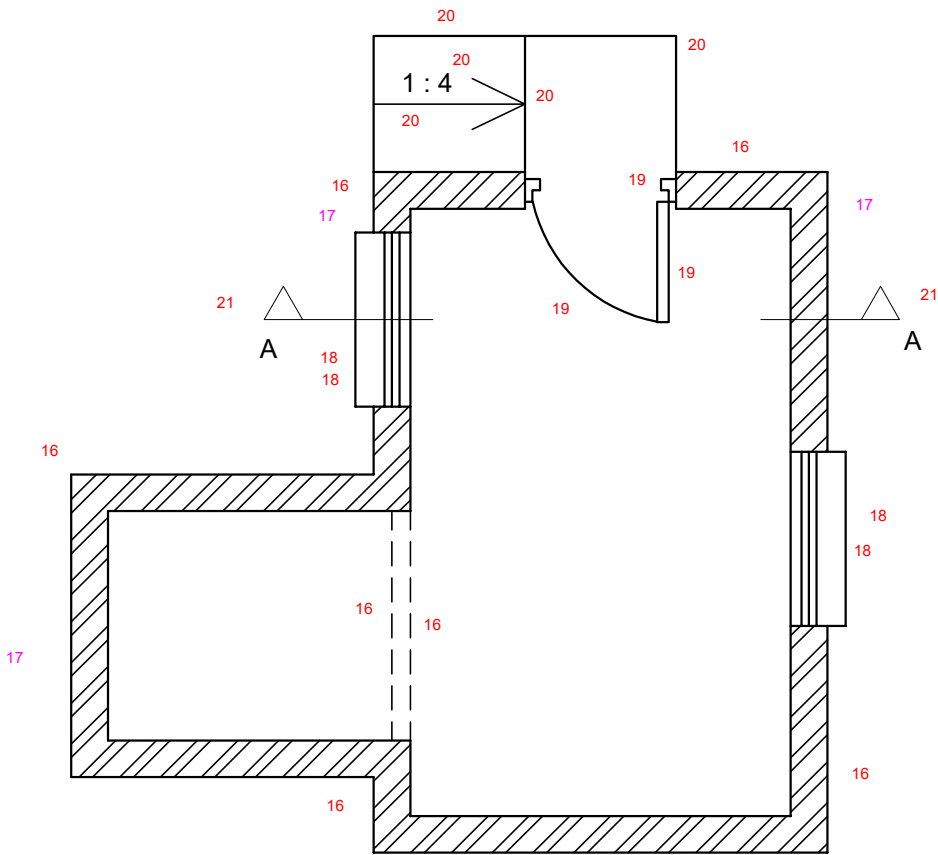
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SECTIONAL SOUTH ELEVATION ON A-A



WEST ELEVATION



FLOOR PLAN
SCALE 1:50