

# X227/301

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NATIONAL  
QUALIFICATIONS  
2008

FRIDAY, 6 JUNE  
1.00 PM – 3.00 PM

BUILDING  
CONSTRUCTION  
HIGHER

100 marks are allocated to this paper.

Attempt **all** questions in Section A (40 marks).

Attempt any **two** questions in Section B (30 marks each).

Worksheets are provided for Questions 1(a), 2, 4(a), 5(b), 6 and 7(c). Hand these in with your answer book.



## SECTION A

Attempt all the questions in this Section (total 40 marks)

Marks

1. (a) **Worksheet Q1(a)** shows a foundation plan for a new dwelling.  
Using the **Worksheet**, identify all the sleeper (dwarf) walls. 2
- (b) Briefly explain the purpose of a sleeper wall. 2
- (c) Briefly explain why large openings are provided in sleeper wall construction. 2
2. (a) **Worksheet Q2** shows a partially complete foundation detail for a cavity wall.  
Using **Worksheet Q2**, complete the detail to show a width and depth for a normal strip foundation. 4
- (b) Using **Worksheet Q2**, show a suitable position for ground level and damp proof course. Indicate the height of the damp proof course above ground level and the depth of the foundation below ground. 4
3. Briefly describe, with the aid of an annotated sketch, each of the following types of stair:
- quarter landing
  - half landing
  - quarter turn with winders. 6
4. (a) **Worksheet Q4(a)** shows a Victorian four panel door.  
Using the **Worksheet**, name each of the component parts. 3
- (b) State **three** functional requirements of a door. 3
- (c) Flush doors can have a variety of finishes.  
State **two** suitable finishes for a flush panel door. 2
5. (a) State **two** factors which must be taken into consideration when deciding the depth of a foundation. 2
- (b) **Worksheet Q5(b)** shows the longitudinal section through the ground level and bearing strata for two different ground conditions.  
Using the **Worksheet** for each situation, sketch a longitudinal section through a strip foundation to show its correct relationship with the bearing stratum. 6
6. **Worksheet Q6** shows four different types of pointing for facing brick work.  
Using the **Worksheet**, identify each type of pointing. 4

(40)

## SECTION B

**Attempt any TWO questions in this Section (total 60 marks)**

7. (a) State **four** factors which should be taken into consideration when establishing a building site. 4
- (b) In site investigation, briefly explain why water percolation tests are carried out. 2
- (c) **Worksheet Q7(c)** shows an architect's detail of a new timber private stair. Using the **Worksheet**, state the name of the parts of the stair numbered 1–12. 6
- (d) Prepare an annotated sketch to show a typical cross-sectional roofing detail for interlocking concrete tiles on battens and counter battens. 4
- (e) Prepare an annotated sketch to show a typical cross-section through a plasterboard ceiling. Indicate the method of fixing, finish to the plasterboard and insulation measures. 4
- (f) Briefly explain, with the aid of an annotated sketch, how quarry tiles may be fixed to a suspended timber floor finish. 2
- (g) A building project is being planned within a suburban location.
- (i) State what signage should be displayed on the perimeter fence. 2
- (ii) State what signage should be displayed at the site entrance. 2
- (iii) What precautions should be taken on site at the end of the working day? 4
- (30)**

**[Turn over for Questions 8 and 9 on Page four]**

8. (a) Briefly describe how the following construction materials should be stored on a site:
- copper piping
  - insulated plasterboard.
- 4
- (b) Briefly describe how efficiency and site security can be achieved with regard to each of the following:
- handling and storage of materials
  - items of plant
  - temporary buildings.
- 6
- (c) Briefly explain **two** safety checks which should be undertaken before excavation commences.
- 4
- (d) Describe the process of applying the following render finishes to a dense block background.
- Wet dash render
  - Dry dash render
- 8
- (e) State **four** functional requirements of a window.
- 4
- (f) (i) List the constituent materials which form a concrete mix.
- 2
- (ii) State **two** recognised time periods for tests to determine the strength of concrete.
- 2
- (30)**
9. (a) A *desk study* is the first stage of a site investigation.
- Briefly explain the process of carrying out a *desk study* and identify the type of information which may be gathered.
- 5
- (b) State **three** main objectives of a site investigation.
- 3
- (c) (i) List the main parts of a site investigation report.
- 6
- (ii) Briefly describe the content of each part of the report.
- 6
- (d) Briefly explain the following terms used in stair construction:
- wall string
  - open tread stair.
- 4
- (e) The overall rise of a stair is 2678 mm.
- Calculate a suitable rise, going and pitch of the stair to comply with current standards.
- 6
- (30)**

[END OF QUESTION PAPER]

FOR OFFICIAL USE

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## **X227/302**

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2008

FRIDAY, 6 JUNE  
1.00 PM – 3.00 PM

**BUILDING  
CONSTRUCTION  
HIGHER**

Worksheets for Questions 1(a),  
2, 4(a), 5(b), 6 and 7(c)

**Fill in these boxes and read what is printed below.**

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

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Scottish candidate number

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Number of seat

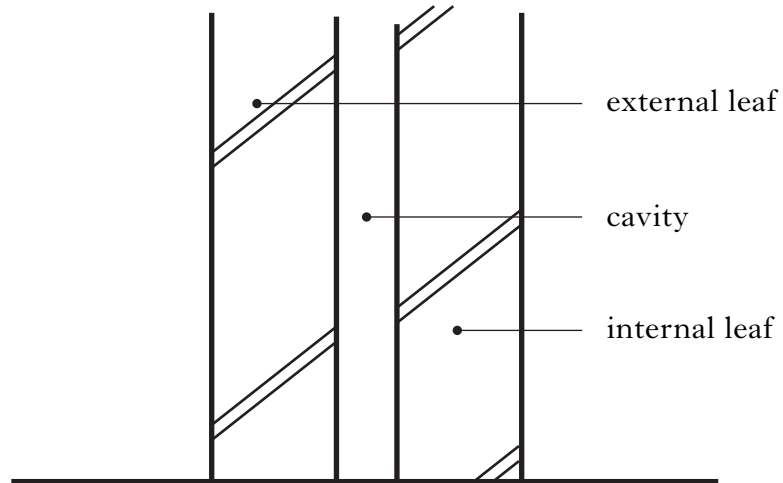
To be inserted inside the front cover of the candidate's answer book and returned with it.



**WORKSHEET Q1(a)**


**SUBSTRUCTURE BLOCK WORK**

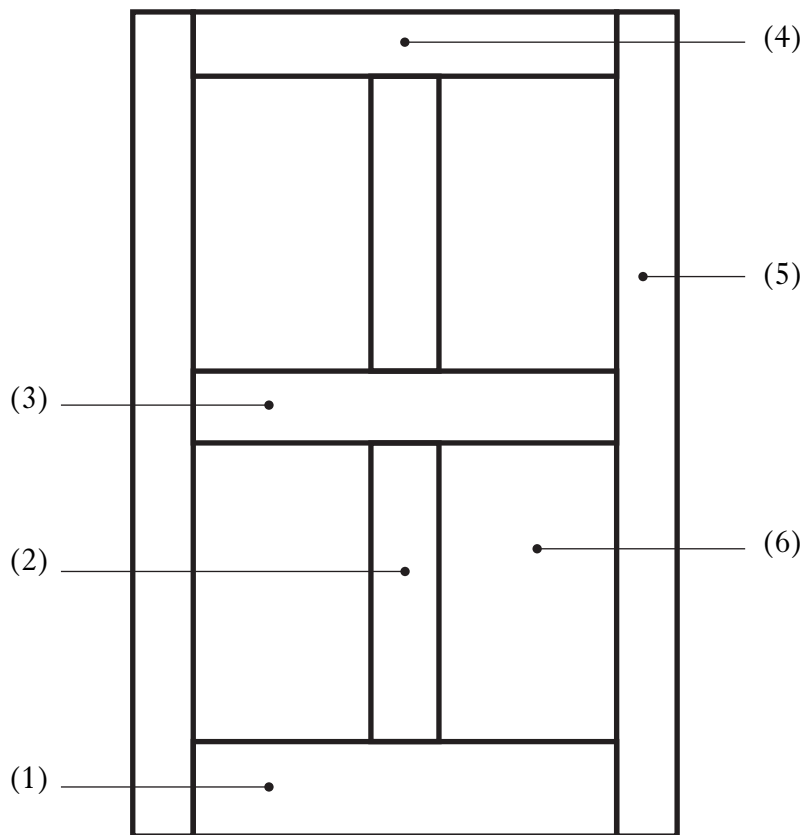
**WORKSHEET Q2**



**COMPLETE FOUNDATION DETAIL**

**[Turn over**

**WORKSHEET Q4(a)**

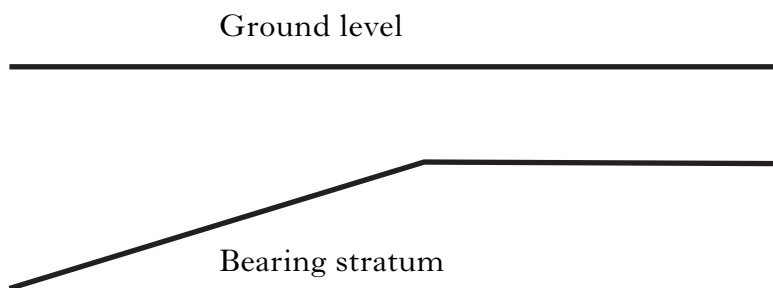
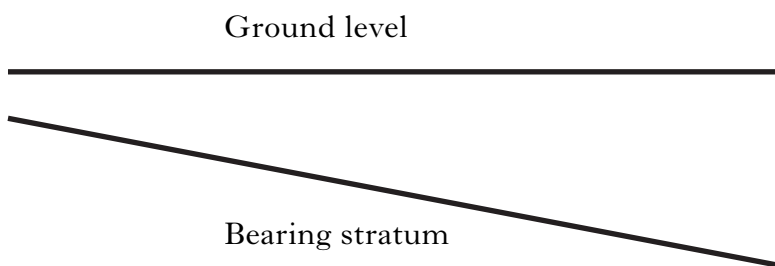


**VICTORIAN DOOR DETAIL**

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_
- (5) \_\_\_\_\_
- (6) \_\_\_\_\_

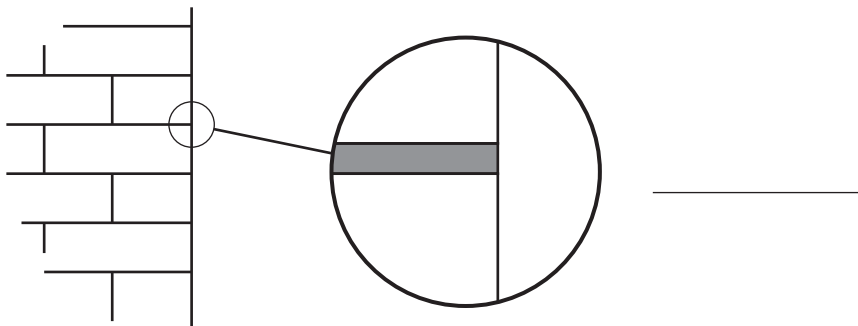
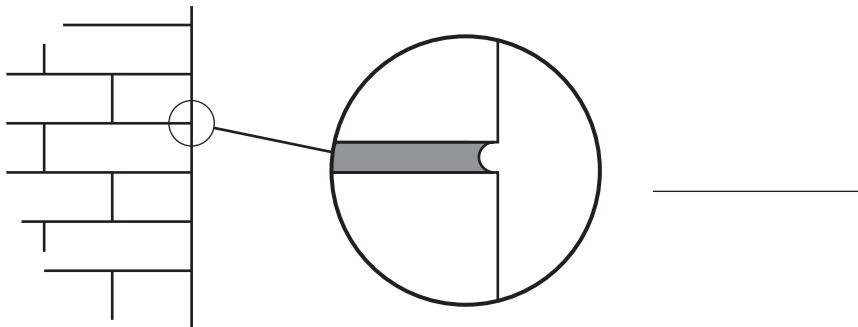
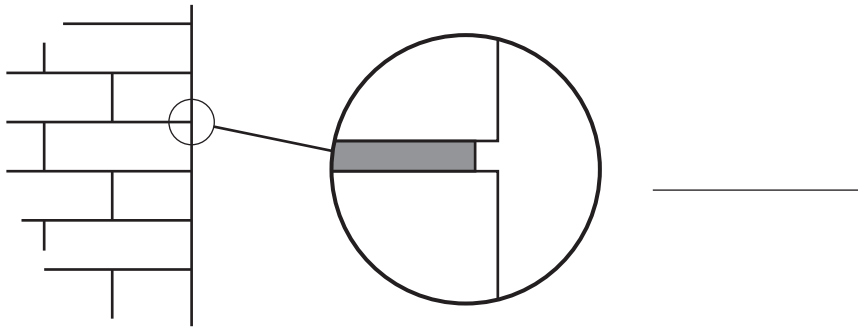
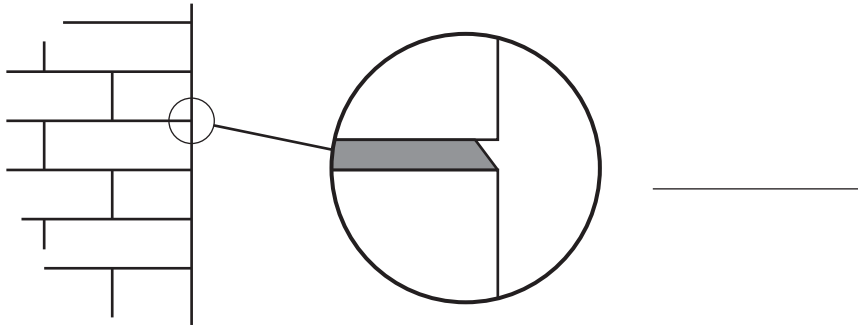


**WORKSHEET Q5(b)**



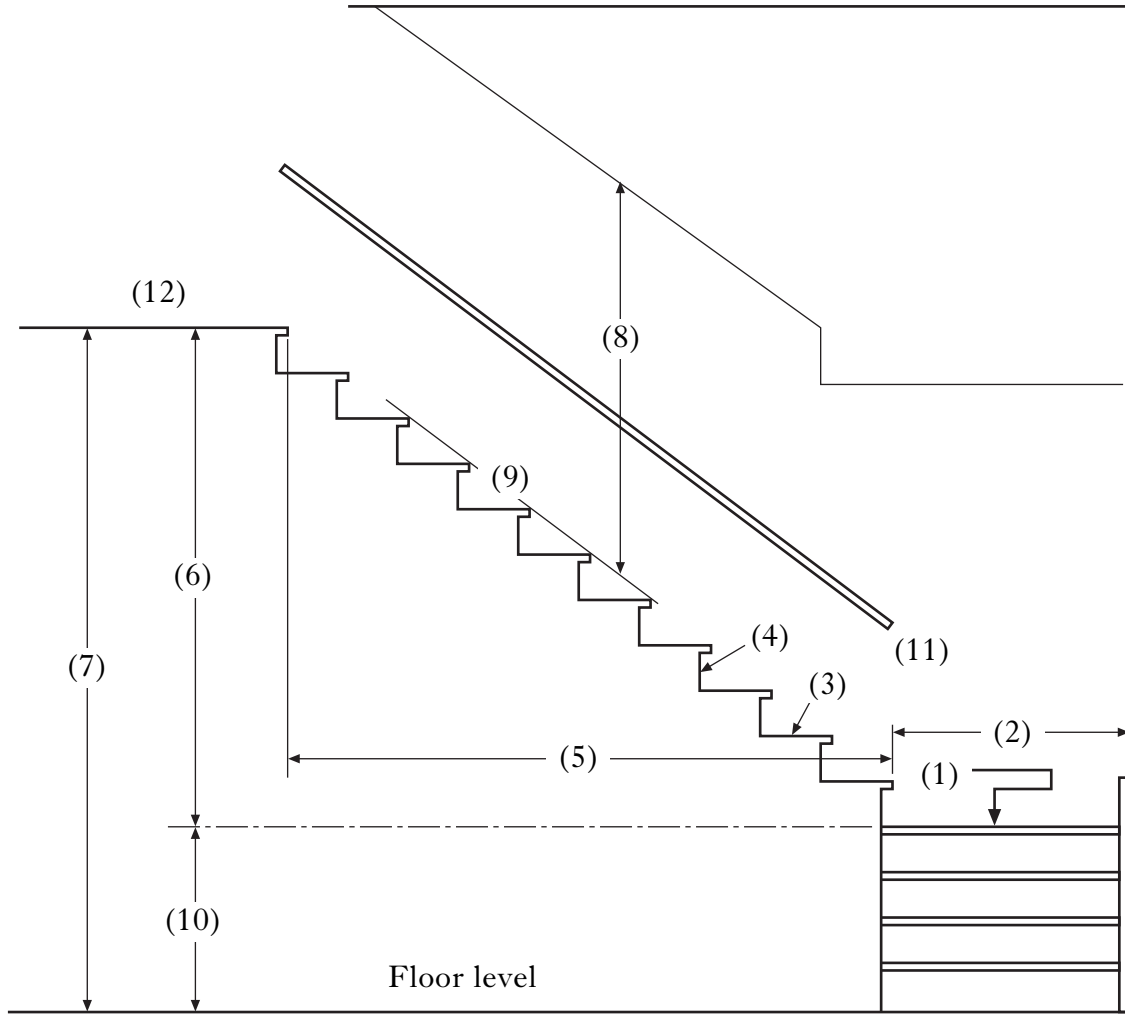
**FOUNDATION AND STRATUM DETAIL**

**WORKSHEET Q6**



**WALL POINTING DETAIL**

**WORKSHEET Q7(c)**



**STAIR DETAIL**

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_
- (5) \_\_\_\_\_
- (6) \_\_\_\_\_

- (7) \_\_\_\_\_
- (8) \_\_\_\_\_
- (9) \_\_\_\_\_
- (10) \_\_\_\_\_
- (11) \_\_\_\_\_
- (12) \_\_\_\_\_

[END OF WORKSHEETS]

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