

Construction

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black or blue pen
Black pen is preferred
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of pages 9, 11 and 15

Total marks – 80

Section I Pages 2–7

15 marks

- Attempt Questions 1–15
- Allow about 20 minutes for this section

Section II Pages 9–17

35 marks

- Attempt Questions 16–20
- Allow about 50 minutes for this section

Section III Page 19

15 marks

- Attempt Question 21
- Allow about 25 minutes for this section

Section IV Page 20

15 marks

- Attempt Question 22
- Allow about 25 minutes for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 20 minutes for this section

Use the multiple-choice answer sheet for Questions 1–15.

- 1** What is the first task a site manager should undertake at the beginning of each day?

 - (A) Plan the day
 - (B) Check the tools
 - (C) Review the project budget
 - (D) Conduct a toolbox meeting

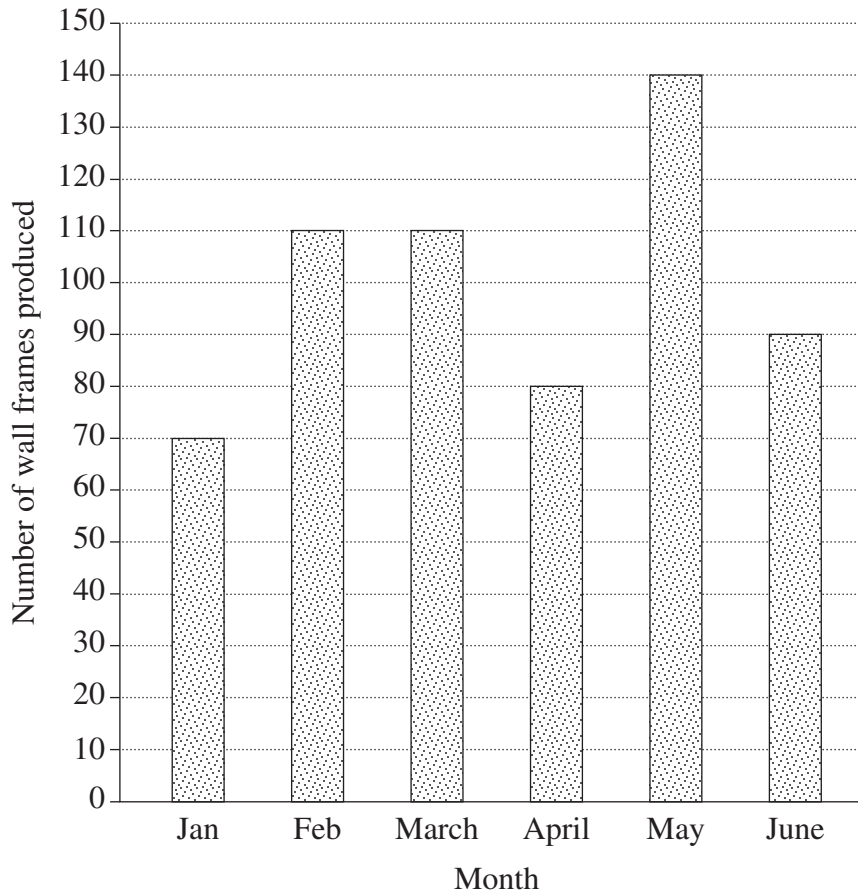
- 2** Which of the following is a role of a workplace safety committee?

 - (A) To undertake site inspections
 - (B) To resolve workplace conflicts
 - (C) To maintain tools and equipment
 - (D) To issue penalties for non-compliance under Work Health and Safety legislation

- 3** Which portable power tool is best suited to cutting a curve in a sheet of 6 mm plyboard?

 - (A) Radial arm saw
 - (B) Circular saw
 - (C) Mitre saw
 - (D) Jigsaw

- 4 The graph displays the number of prefabricated wall frames produced each month from January to June.



What is the average number of wall frames produced per month from 1 January to 30 June?

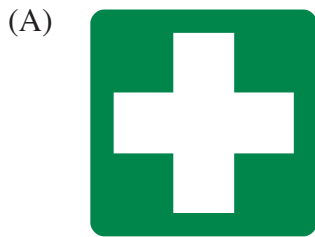
- (A) 80
(B) 100
(C) 120
(D) 140
- 5 What is the name of the drill bit shown?

Awaiting copyright

- (A) Spade bit
(B) Auger bit
(C) Masonry bit
(D) High speed drill bit

- 6 How many linear metres of 90×45 timber lengths are needed to prepare formwork for a $4 \text{ m} \times 3 \text{ m}$ concrete slab?
- (A) 7 m
 - (B) 9 m
 - (C) 12 m
 - (D) 14 m

- 7 Which of the following signs is a hazard warning?



White on green



Red circle and bar



Blue background
white symbol



Black on yellow

Acknowledgement: Reproduced with permission from The Sign Place Maitland www.signplacemaitland.com.au

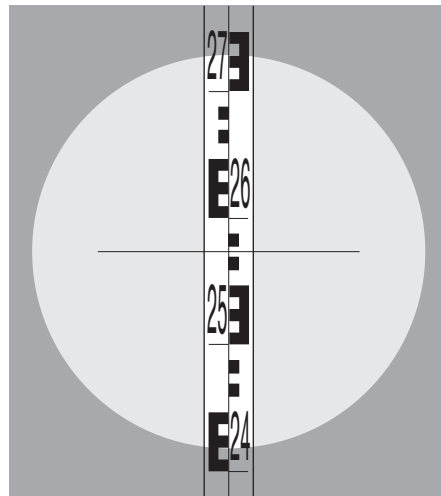
- 8 Back fill is required for an excavation trench which measures 3 m long, 800 mm wide and 1.5 m deep.

How much material is required?

- (A) 0.36 m^3
- (B) 36 m^3
- (C) 3.6 m^3
- (D) 3600 m^3

- 9** What is the first thing to be done by management before using a new chemical on a construction site?
- (A) Contact the union for advice
 - (B) Use personal protective equipment (PPE)
 - (C) Consult the material safety data sheet (MSDS)
 - (D) Complete a safe work method statement (SWMS)
- 10** What is the most effective tool for removing 150 mm bullet head nails from timber?
- (A) Pinch bar
 - (B) Pair of pliers
 - (C) Claw hammer
 - (D) Pair of pincers
- 11** Which of the following includes two essential pieces of information required when contacting emergency services to attend an accident at a construction site?
- (A) Nature of injuries, location
 - (B) Nature of incident, name of local doctor
 - (C) Contact name, family emergency contact number
 - (D) Nearest cross-street, injured person's years of employment

12 A picture of a staff is shown.



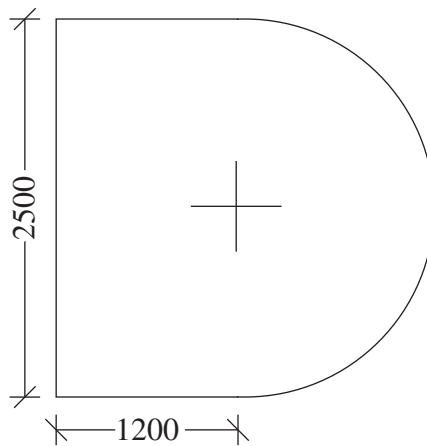
Which of the following is the reading on this staff to the nearest 5 mm?

- (A) 2500
 - (B) 2520
 - (C) 2550
 - (D) 2575
- 13 Which information can be found on a floor plan?
- (A) Roof structure
 - (B) Wall thickness
 - (C) Window-sill height
 - (D) Overhanging beams
- 14 A transfer level is to be measured over a distance of 10 metres by a tradesman who is working alone.

Which of the following levelling devices would be most suitable to complete this task?

- (A) Laser level
- (B) Spirit level
- (C) Water level
- (D) String line level

- 15 The top view of a concrete slab is shown.



The formula for finding the circumference of a circle is $C = \pi \times \text{diameter}$.

What is the perimeter of the concrete slab in metres (correct to 2 decimal places)?

- (A) 7.63 m
- (B) 8.83 m
- (C) 11.33 m
- (D) 12.75 m

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Construction

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Centre Number

Section II

35 marks

Attempt Questions 16–20

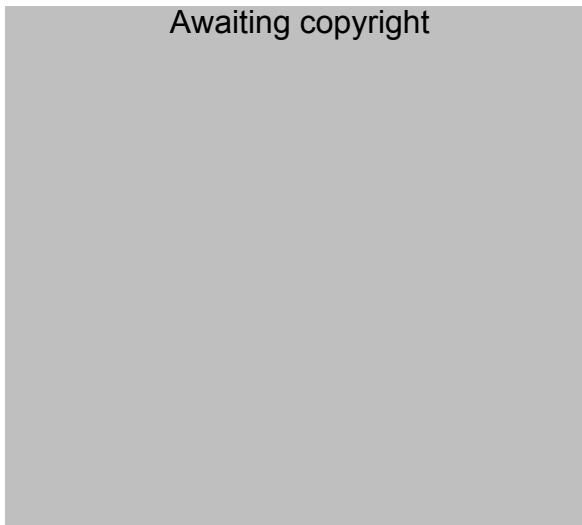
Allow about 50 minutes for this section

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Student Number

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (9 marks)



- (a) Outline the pre-operational checks and personal protective equipment (PPE) required when using the power tool shown above. **4**

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Question 16 continues on page 10

Question 16 (continued)

- (b) Outline good housekeeping clean-up practices that are undertaken on a construction site at the conclusion of a working day. **3**

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- (c) What is the purpose of Work Health and Safety (WHS) Construction Induction Training (White Card)? **2**

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End of Question 16

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Centre Number

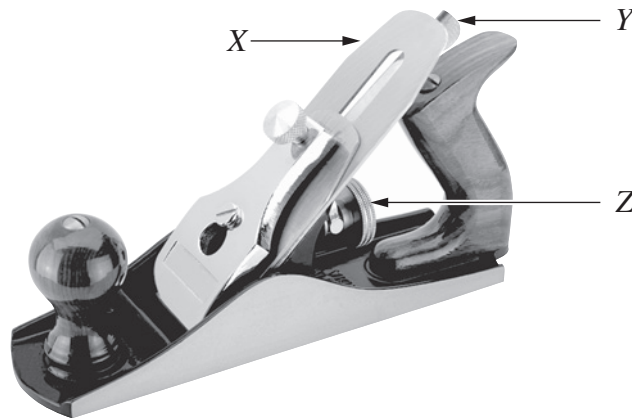
Section II (continued)

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Student Number

Question 17 (5 marks)

(a) A photograph of a plane is shown.



Name the labelled components of the plane. 2

X

Y

Z

(b) Outline the maintenance requirements of this plane. 3

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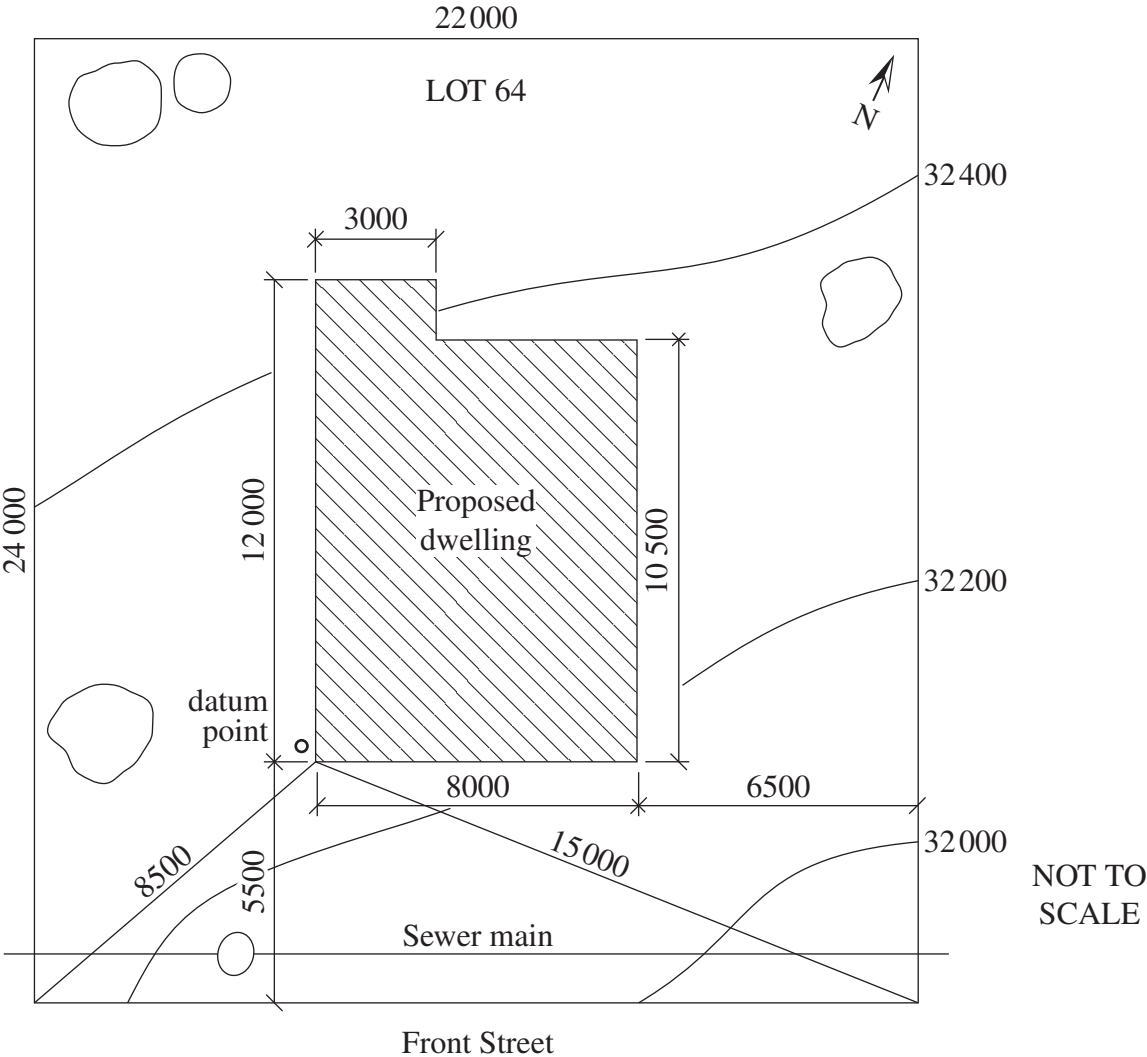
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Question 18 (8 marks)

The diagram shows a site plan of a proposed dwelling.



- (a) What features on the site plan indicate the position of the proposed dwelling? 2

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Question 18 continues on page 13

Question 18 (continued)

(b) Calculate the amount of land on the site excluding the proposed dwelling. Show all working. 3

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(c) Explain why it is important to use accurate calculations when completing a project budget, work schedule and labour costs. Provide examples to support your answer. 3

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End of Question 18

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Construction

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Centre Number

Section II (continued)

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Student Number

Question 19 (6 marks)

Explain the benefits of having regular on-site team meetings on a construction site.
Provide examples to support your answer.

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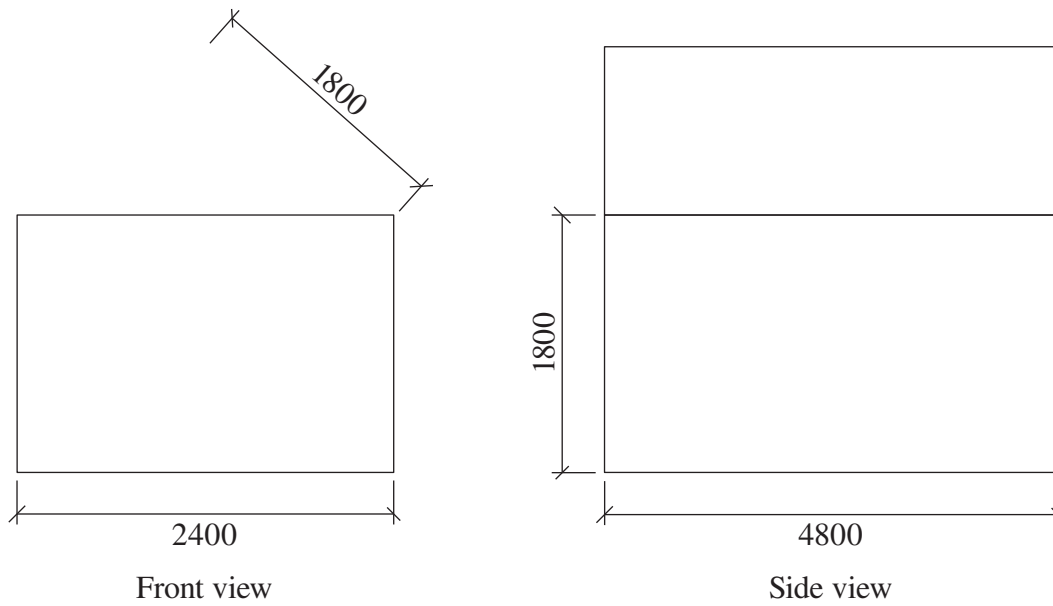
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Question 20 (7 marks)

The diagram shows two views of a child's cubby house.



- (a) Calculate the number of 2.4 m \times 1.2 m plywood sheets required for the walls of the cubby house with minimal wastage. Show all working. **2**

Note: The roof gable is not included in this calculation.

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Question 20 continues on page 17

Question 20 (continued)

- (b) Calculate the number of roof tiles required and the cost to cover the roof. Each roof tile costs \$2.20 and covers an area of 200×180 mm. Show all working. **3**

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- (c) Why is it important for a construction company building a cubby house to comply with Australian Standards? **2**

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End of Question 20

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Construction

Section III

15 marks

Attempt Question 21

Allow about 25 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

In your answer you will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
 - communicate ideas and information using relevant workplace examples and industry terminology
 - present a logical and cohesive response
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Question 21 (15 marks)

Describe actions that can be taken to control waste management and reduce hazardous threats to waterways, neighbouring properties and roads and site amenities when working on a building site.

Please turn over

Section IV

15 marks

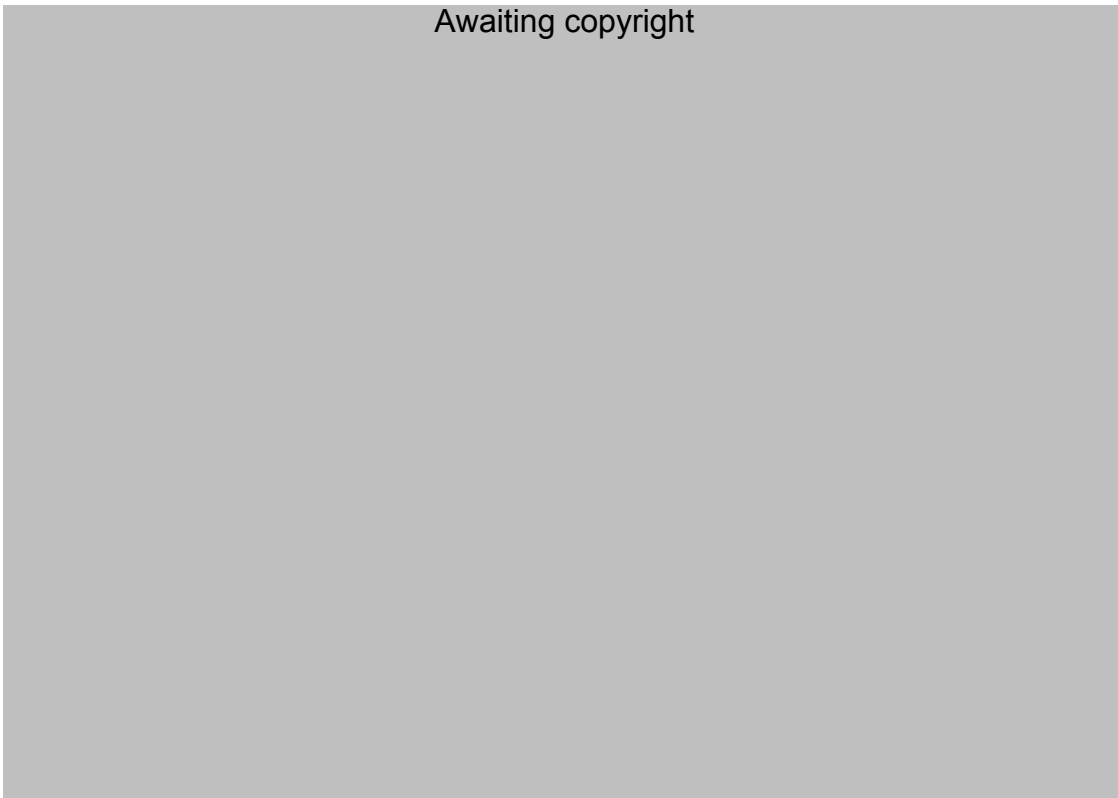
Attempt Question 22

Allow about 25 minutes for this section

Answer the question in a SEPARATE writing booklet. Extra writing booklets are available.

Question 22 (15 marks)

The photograph shows a construction site that does not comply with Work Health and Safety (WHS) legislation.



- (a) Identify hazards that could be a potential risk to workers on this construction site. **3**
- (b) For TWO of the hazards identified, explain what actions are needed to bring this construction site up to Work Health and Safety standards. **4**
- (c) Explain how Work Health and Safety legislation assists in protecting workers on construction sites. **8**

End of paper