

Construction

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black pen
- 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 2–6

15 marks

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

Section II Pages 9–16

35 marks

- Attempt Questions 16–21
- Allow about 50 minutes for this section

Section III Page 17

15 marks

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

Section IV Page 18

15 marks

- Attempt Question 23
- 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.

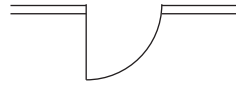
1 What type of hammer is shown?



- (A) Claw
 - (B) Lump
 - (C) Ball pein
 - (D) Warrington
- 2 A builder works 18 hours on a construction project and charges \$990.00.
- What is the builder's rate of pay per hour?
- (A) \$30.00
 - (B) \$40.00
 - (C) \$55.00
 - (D) \$60.00
- 3 What is the main purpose of a site induction for new employees?
- (A) To locate the evacuation point
 - (B) To discuss union matters and awards
 - (C) To locate the site office and amenities
 - (D) To explain site procedures and requirements

- 4 What is the clearest way to communicate a work sequence?
- (A) Checklist
 - (B) Database
 - (C) Gantt chart
 - (D) Column chart
- 5 An employee is required to use the correct posture when lifting a 20 kg bag of cement.
- The employee should stand with
- (A) a straight back and legs.
 - (B) an arched back and bent knees.
 - (C) a straight back and bent knees.
 - (D) an arched back and straight legs.
- 6 A 1.65 m length of timber is required for a job. The supervisor wants a standard length ordered.
- Which of the following should be ordered?
- (A) 1.7 m
 - (B) 1.8 m
 - (C) 2.0 m
 - (D) 2.2 m
- 7 What is the most commonly used scale for a site plan?
- (A) 1:10
 - (B) 1:20
 - (C) 1:100
 - (D) 1:200

8 What does this symbol used in building drawings represent?

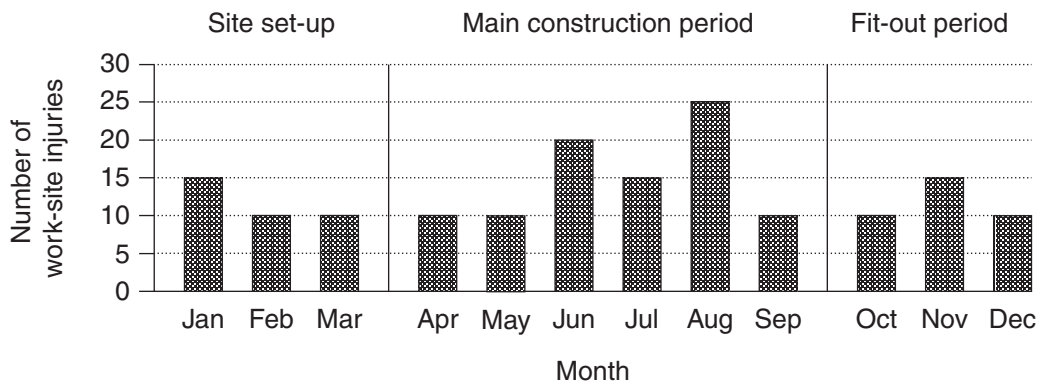


- (A) A bifold door
 - (B) A single hinged door
 - (C) A single sliding door
 - (D) A double hinged door
- 9** What is the purpose of an earth leakage device?
- (A) To recharge batteries
 - (B) To provide on-site power
 - (C) To prevent electric shocks
 - (D) To convert the power supply
- 10** Which of the following fasteners should be used to attach a metal bracket to brickwork?
- (A) Dynabolt
 - (B) Toggle bolt
 - (C) Pan head screw
 - (D) Bugle head screw
- 11** Which of the following fence types is used to prevent hazardous substances running off into nearby waterways from a construction site?
- (A) Brick
 - (B) Sediment
 - (C) Temporary
 - (D) Fabric sheet

12 What is the main reason why workplace accidents should be reported?

- (A) To reduce the cost of insurance
- (B) To provide records for WorkCover
- (C) To provide statistics to the union
- (D) To improve hazard identification on the work site

13 The graph displays the number of injuries that occurred on a work site for each month in 2014.



What is the average number of injuries per month that occurred during the main construction period?

- (A) 10
- (B) 12
- (C) 15
- (D) 18

- 14** The construction of a new building involves coordinating the work of many different trades.

What would be the correct sequencing of trades for constructing a new building efficiently?

- (A) Concreters, roofers, plasterers, carpenters
- (B) Concreters, carpenters, roofers, plasterers
- (C) Concreters, formworkers, carpenters, plasterers
- (D) Formworkers, concreters, plasterers, roofers

- 15** The following specifications are given:

- Section: 90 × 90 mm pine
- Length: 2.4 m
- Amount: 125 lengths

Based on these specifications, which of the following is the minimum number of cubic metres of timber required?

- (A) 2.0
- (B) 2.3
- (C) 2.5
- (D) 2.9

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Centre Number

Section II

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Student Number

35 marks

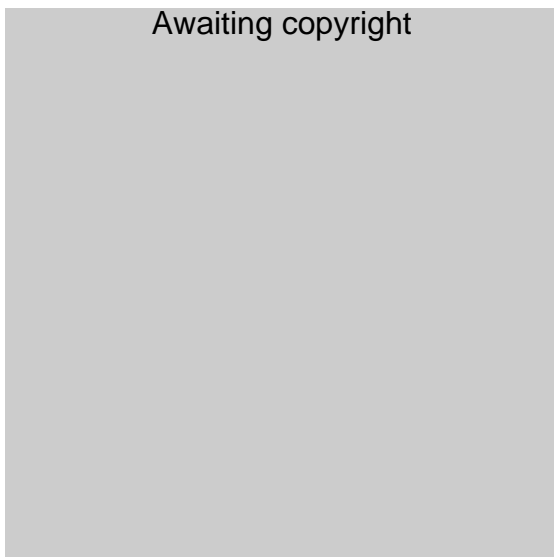
Attempt Questions 16–21

Allow about 50 minutes for this section

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

Question 16 (4 marks)

The picture shows a carpenter using a spirit level to set up a doorjamb.



- (a) Outline the correct process for using the spirit level in this situation. **2**

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- (b) How can the door opening be checked for squareness? **2**

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Question 17 (7 marks)

(a) Describe the possible implications of building construction delays for builders. **3**

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(b) Describe the possible consequences of poor maintenance of construction tools and equipment for a building company. **4**

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Centre Number

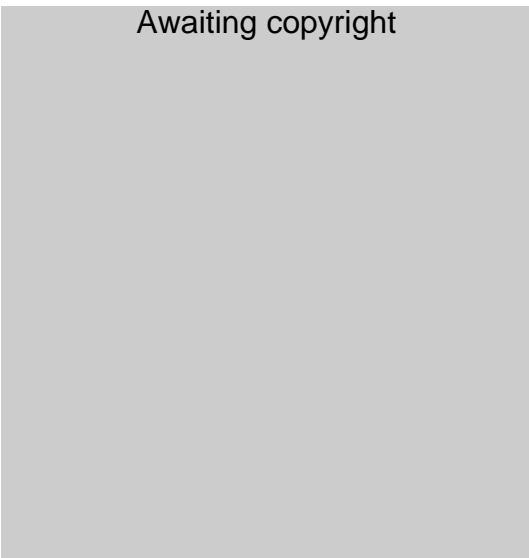
Section II (continued)

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Student Number

Question 18 (4 marks)

A picture of a 20 V cordless drill is shown.



- (a) Outline the adjustment settings that can be made to this drill. 2

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- (b) Outline an important issue to consider when using the drill shown to drill into a concrete floor. 2

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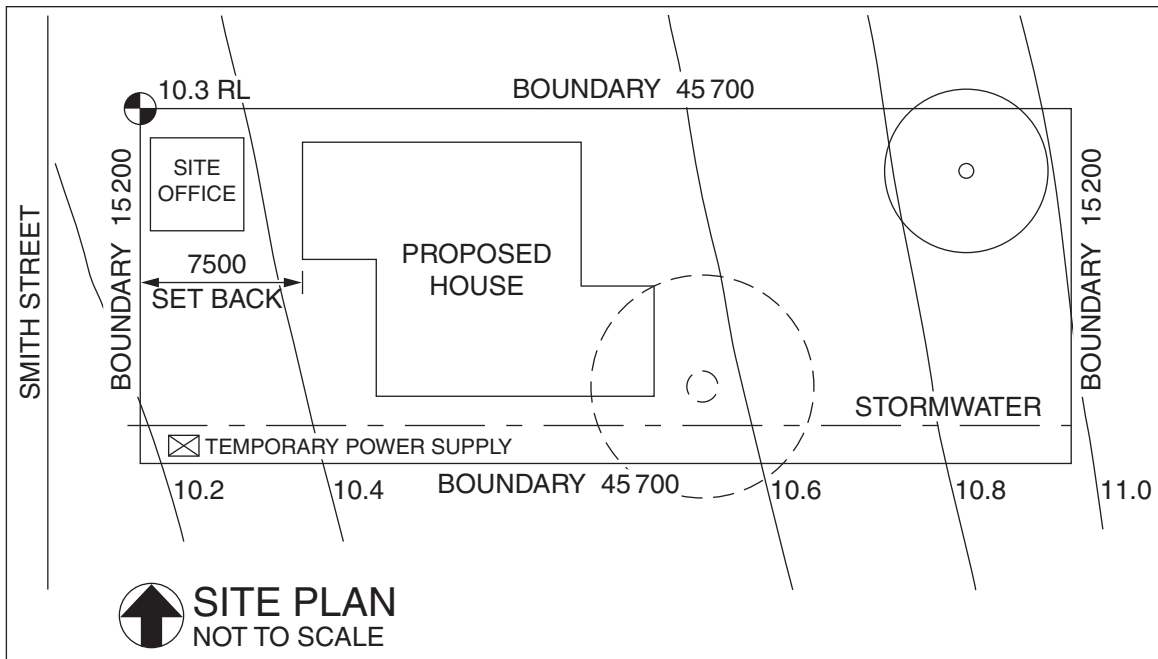
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Question 19 (7 marks)

A construction site plan is shown.



- (a) Identify ONE symbol or feature from the site plan and outline its purpose. 2

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- (b) Using the table, calculate the total cost of labour to set up temporary fencing for the construction site. Show all working. 2

<i>Labour</i>	<i>Hours to be worked</i>	<i>Cost per hour</i>
Leading hand	16	\$65.00
Apprentice	12	\$24.00

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Question 19 continues on page 13

Question 19 (continued)

(c) Outline how a builder would use the site plan to establish the site set-up. **3**

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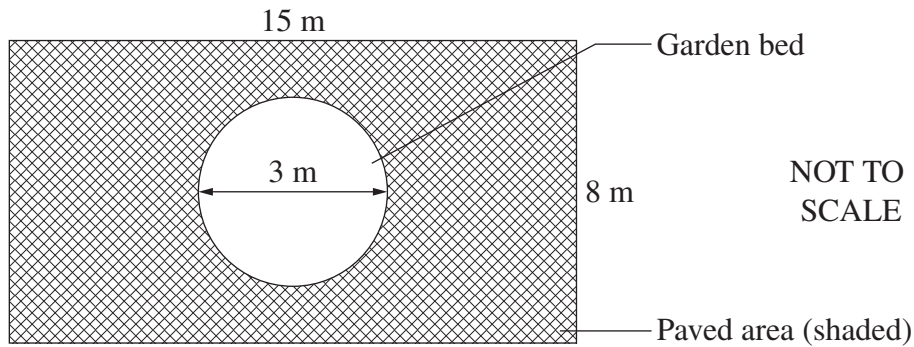
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End of Question 19

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Question 21 (7 marks)

The diagram shows a sketch of a proposed backyard garden.



The formula for finding the circumference of a circle is $C = \pi d$ and for the area of a circle is πr^2 .

- (a) Calculate how many lengths of $1.8 \times 90 \times 19$ treated pine timber are needed to form and bend an edge for the garden bed. **2**

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- (b) Calculate the volume of sand needed to form a 50 mm sand bed for the paving. **2**

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- (c) How many 400×400 pavers are required for the paved area? **3**

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Construction

Section III

15 marks

Attempt Question 22

Allow about 25 minutes for this section

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

Your answer 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 22 (15 marks)

Describe how builders and tradespeople can ensure quality work standards and ethical work practices on a construction site.

Please turn over

Section IV

15 marks

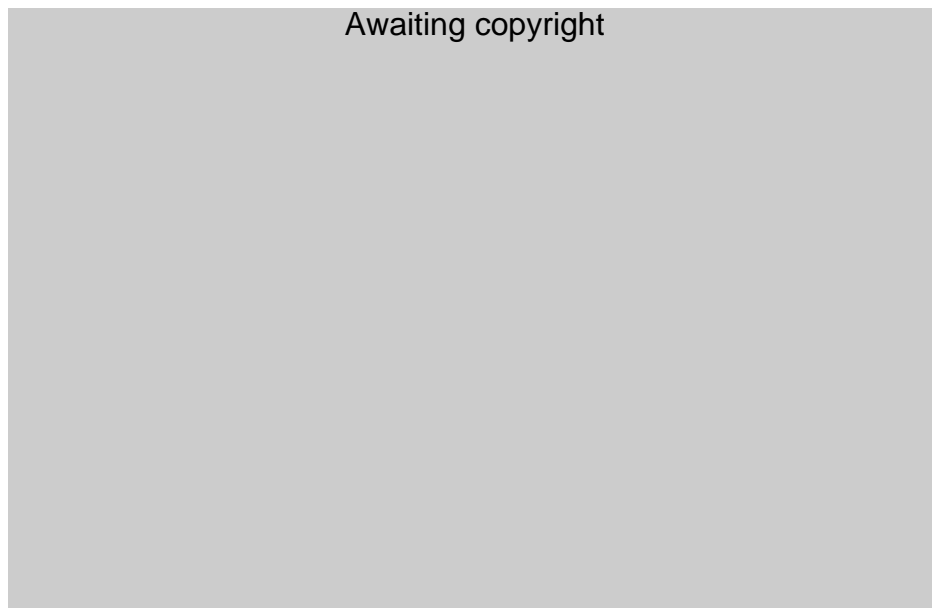
Attempt Question 23

Allow about 25 minutes for this section

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

Question 23 (15 marks)

The photograph shows a pedestrian pathway on a construction site.



- (a) Identify ONE hazard and its potential risk to workers on this pedestrian pathway. **2**
- (b) How would you communicate work-site information to workers and visitors on this work site? **5**
- (c) Explain a method for assessing the risks and hazards on this work site by: **8**
- assessing potential risks
 - prioritising the most dangerous hazards.

End of paper