

**B O A R D O F S T U D I E S**  
NEW SOUTH WALES

**2011**

**HIGHER SCHOOL CERTIFICATE  
EXAMINATION**

# Industrial Technology

## Graphics Technologies

### General Instructions

- Reading time – 5 minutes
- Working time –  $1\frac{1}{2}$  hours
- Write using black or blue pen  
Black pen is preferred
- Draw diagrams using pencil
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of page 9

**Total marks – 40**

**Section I** Pages 2–6

**10 marks**

- Attempt Questions 1–10
- Allow about 20 minutes for this section

**Section II** Pages 9–12

**15 marks**

- Attempt Questions 11–16
- Allow about 35 minutes for this section

**Section III** Page 13

**15 marks**

- Attempt Question 17
- Allow about 35 minutes for this section

## Section I

10 marks

Attempt Questions 1–10

Allow about 20 minutes for this section

Use the multiple-choice answer sheet for Questions 1–10.

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1 What scale is commonly used to draw house plans?

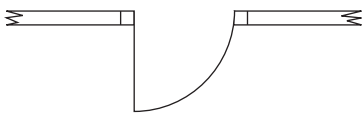
- (A) 1:50
- (B) 1:100
- (C) 1:150
- (D) 1:1000

2 In which list are all the examples types of pictorial drawings?

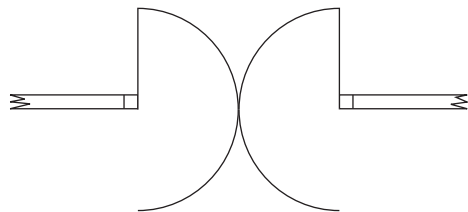
- (A) 2D, Isometric, Planometric
- (B) 2D, Sectional, Orthographic
- (C) Isometric, Oblique, Sectional
- (D) Isometric, Oblique, Planometric

3 Which of the following is the graphical symbol for a single-swing door?

(A)



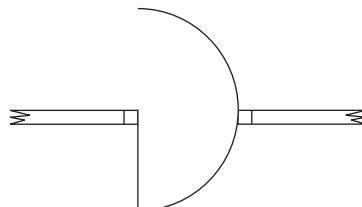
(B)



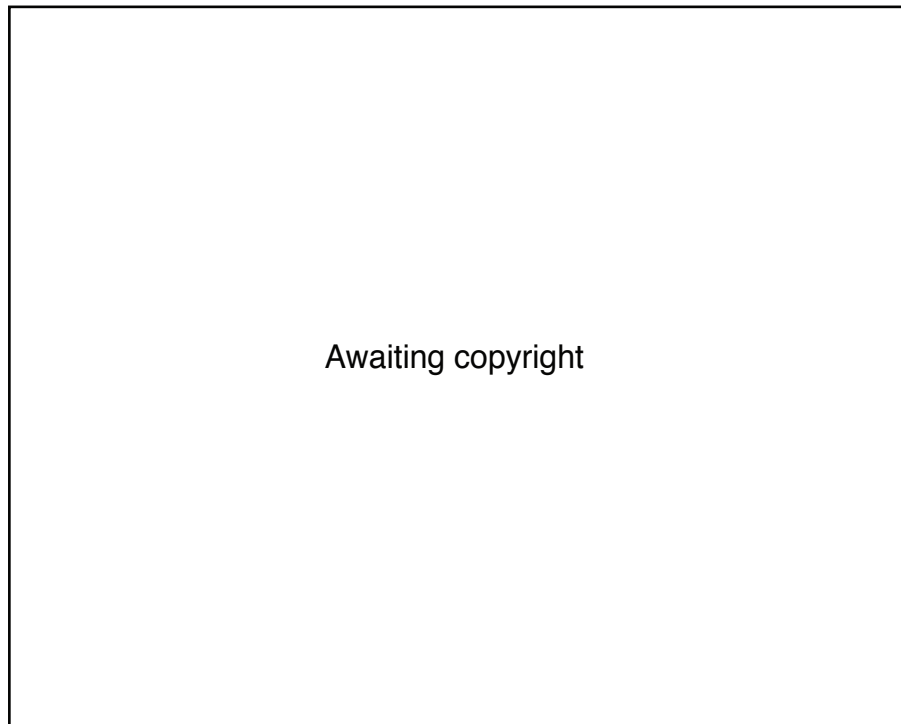
(C)



(D)



**4** What type of drawing is shown?

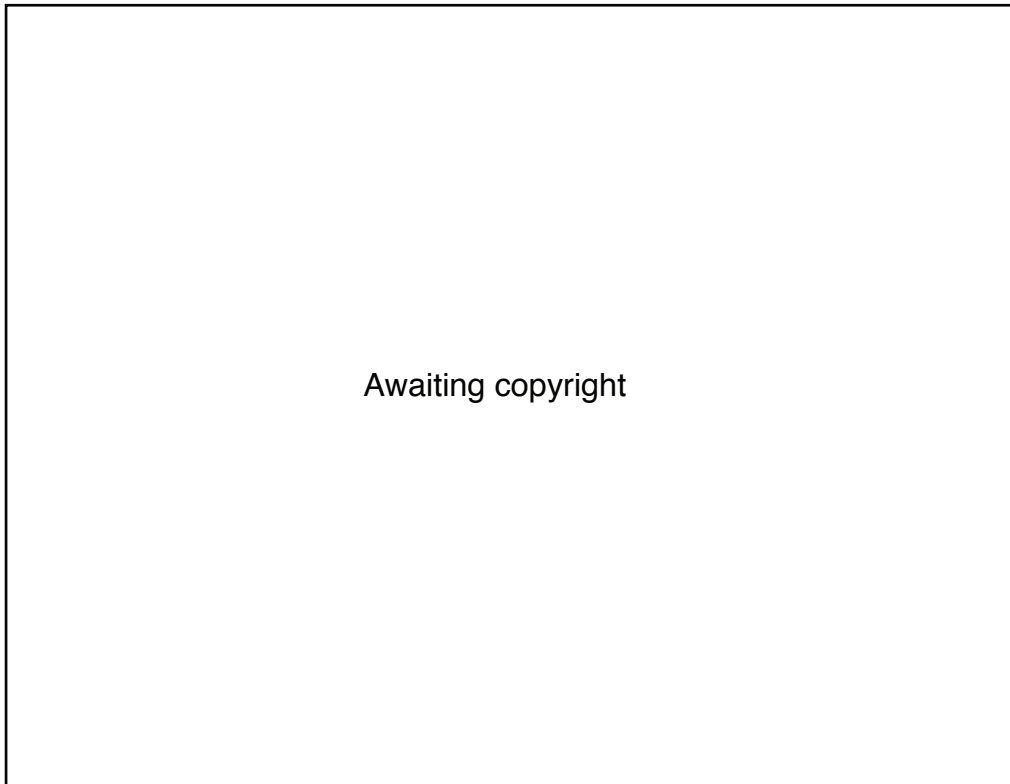


- (A) Exploded item
- (B) Exploded oblique
- (C) Exploded isometric
- (D) Exploded orthographic

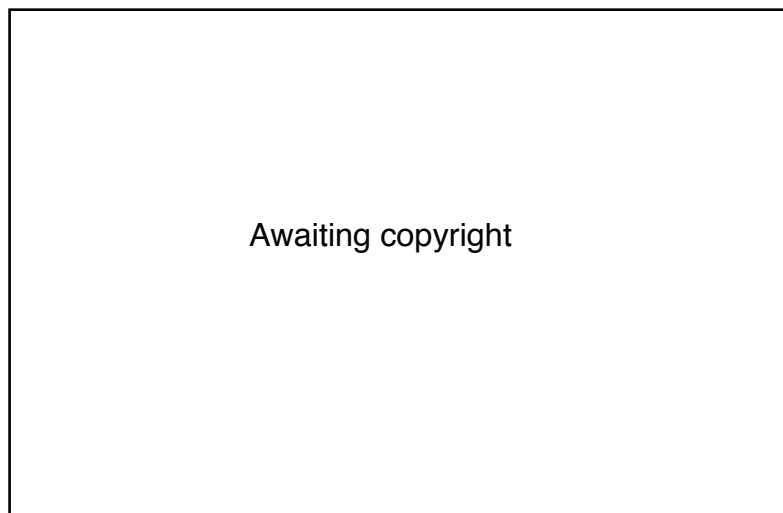
**5** Which of the following is a feature of sectional drawings?

- (A) They show no internal detail.
- (B) They show a cross-section of an object.
- (C) They can only be drawn in 1st angle projection.
- (D) They can only be drawn in pictorial representation.

- 6 Which of the following images represents a single-point perspective drawing?

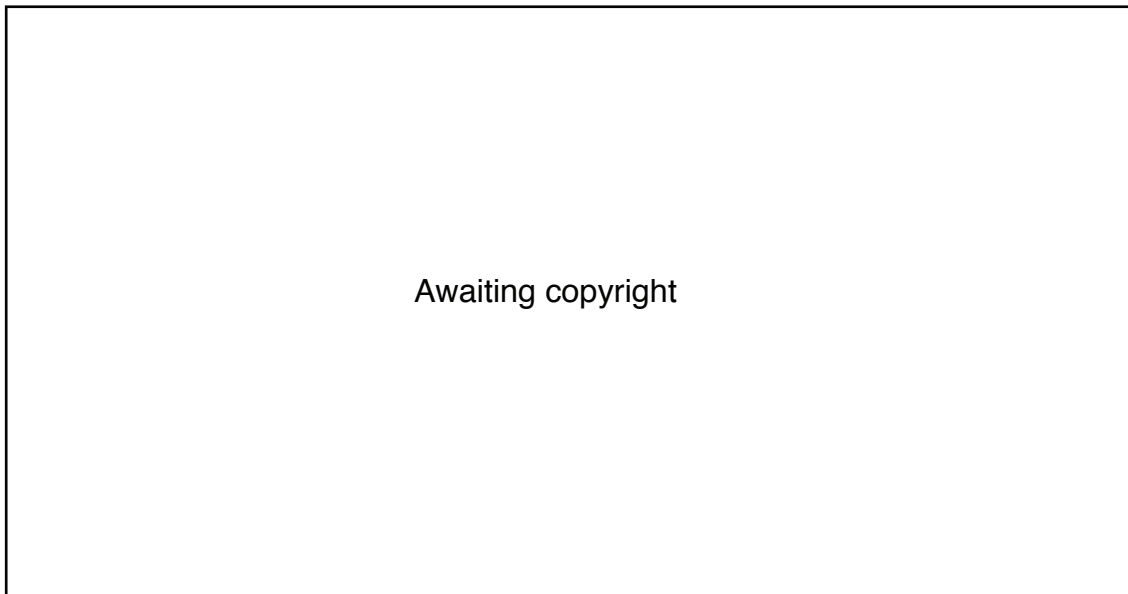


- 7 What is the approximate total surface area of the right side, left side and rear wall of the workshed shown? Only the front wall has a window or door.



- (A)  $12 \text{ m}^2$
- (B)  $13 \text{ m}^2$
- (C)  $14 \text{ m}^2$
- (D)  $16 \text{ m}^2$

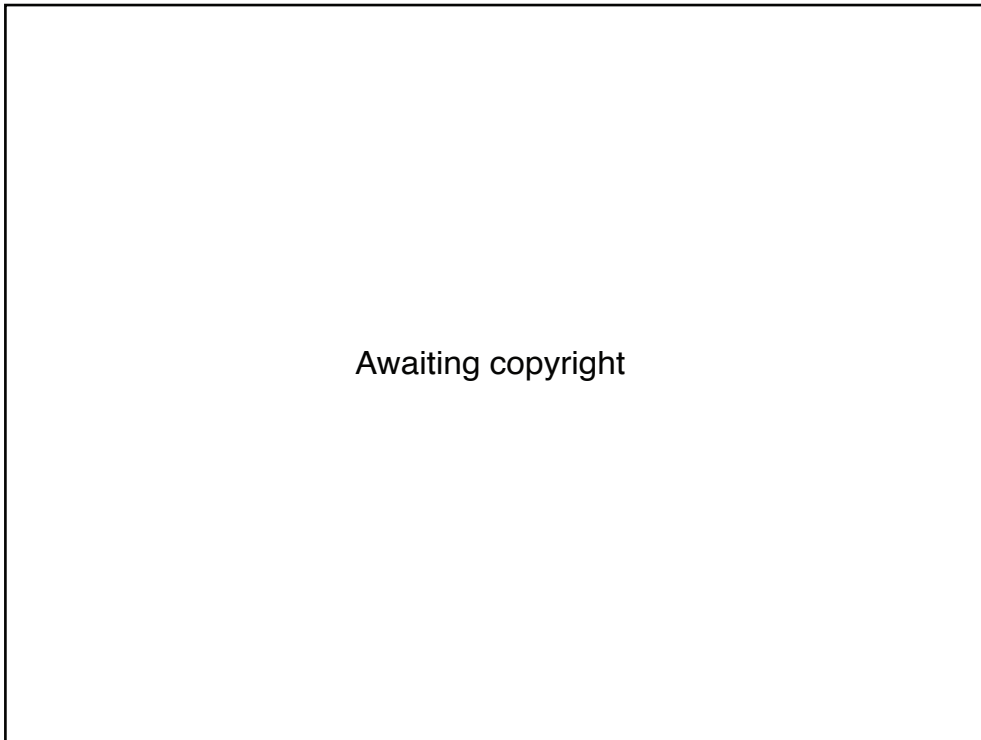
8 Which drawing shows a skillion roof?



9 Which statement correctly defines assembly drawings?

- (A) Assembly drawings are always drawn at half scale.
- (B) Assembly drawings show how the components fit together.
- (C) Assembly drawings can only be drawn in 3rd angle projection.
- (D) Assembly drawings can only be viewed as a two dimensional image.

10 A timber-framed structure is shown.



What would be the approximate cost of the rafters needed to construct the roof section?

Note: Cost of rafters is \$6.00 per lineal metre. (Allow for no timber wastage.)

- (A) \$183
- (B) \$228
- (C) \$274
- (D) \$320

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# Industrial Technology Graphics Technologies

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Centre Number

## Section II

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Student Number

15 marks

Attempt Questions 11–16

Allow about 35 minutes for this section

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

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### Question 11 (1 mark)

What is an advantage of CAD drawings compared to hand drawings? 1

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### Question 12 (2 marks)

How are freehand sketches used in the graphics industry? 2

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### Question 13 (2 marks)

What presentation techniques assist architects to promote their concepts and products? 2

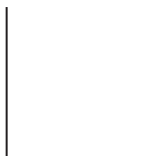
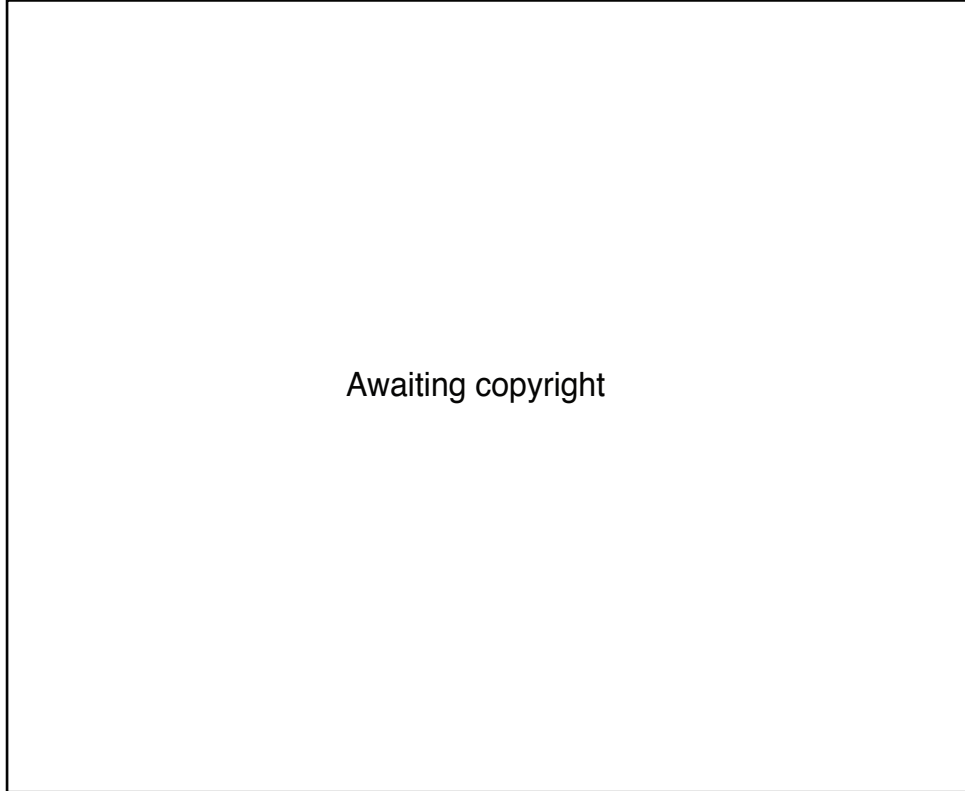
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**Question 14** (3 marks)

A casting block is shown.

**3**

Sketch a freehand oblique view using the sizes of the casting block.

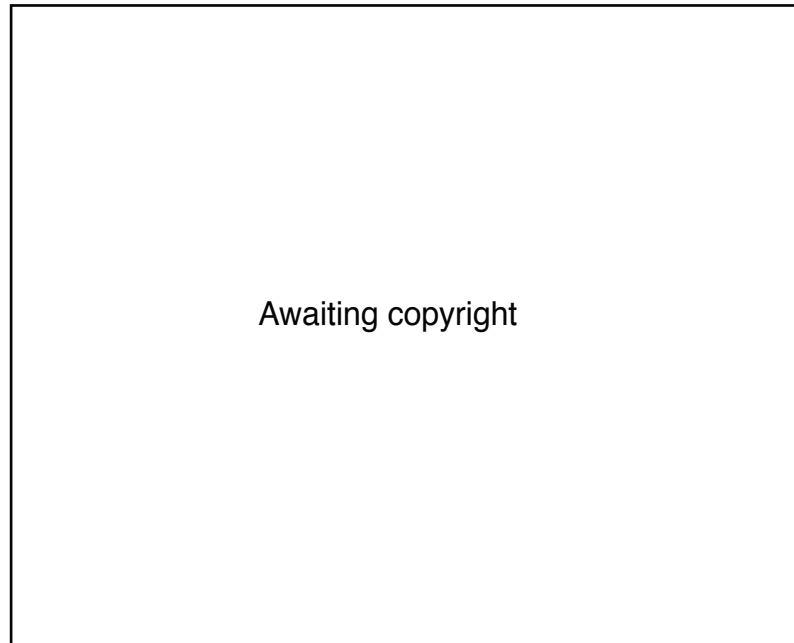


**Question 15** (3 marks)

A torch is shown.

**3**

Using 3rd angle projection, draw a top view and a front view of the torch.



**Question 16** (4 marks)

Design and sketch a floor plan of a double garage, using the information given below.

**4**

- Scale 1:50
- Walls: Single brick with engaged piers
- Door: 0.9 m wide
- Two windows: 1.2 m wide
- Two garage doors: each 2.4 m wide
- Overall wall length: 7.5 m by 7.5 m



**Industrial Technology  
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**Section III**

**15 marks**

**Attempt Question 17**

**Allow about 35 minutes for this section**

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

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**Question 17 (15 marks)**

A company is expanding its operations by establishing an interstate facility.

- (a) Describe personnel issues the company needs to consider when staffing the new facility. **5**
- (b) Analyse factors, other than personnel issues, that could affect the viability of the company at the new location. **10**

**End of paper**

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