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Centre Number

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Student Number

2003
HIGHER SCHOOL CERTIFICATE
EXAMINATION

Industrial Technology

Graphics Industries

General Instructions

- Reading time – 5 minutes
- Working time – $1\frac{1}{2}$ hours
- Write using black or blue pen
- Draw diagrams using pencil
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of this page and pages 5, 9, 17 and 21

Total marks – 100

Section I Pages 2–13

60 marks

- Attempt Questions 1–3
- Allow about 55 minutes for this section

Section II Pages 17–25

40 marks

- Attempt Questions 4–5
- Allow about 35 minutes for this section

Section I

60 marks

Attempt Questions 1–3

Allow about 55 minutes for this section

Answer the questions in the spaces provided.

Marks

Question 1 (20 marks)

IND-TECH is a large company situated in the inner city, operating in the graphics industry specialising in high quality products and/or services. For a variety of reasons the company has decided to purchase and relocate to a new site, 200 km from its present inner city site.

- (a) Identify TWO issues that may have influenced the decision to relocate. **2**

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- (b) Outline TWO environmental responsibilities that must be dealt with when IND-TECH vacates the present site. **2**

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Question 1 continues on page 3

Question 1 (continued)

- (c) Discuss TWO factors that IND-TECH should consider when choosing the alternative site. **4**

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- (d) Identify and describe TWO occupational health and safety (OHS) issues that IND-TECH would need to review/develop for the new workplace. **4**

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Question 1 continues on page 4

Industrial Technology
Graphics Industries

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Centre Number

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Student Number

Section I (continued)

Marks

Question 2 (20 marks)

Management at IND-TECH has decided to upgrade the level of mechanisation as part of its relocation.

- (a) Define the term *mechanisation*. 2

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- (b) Outline an aspect of IND-TECH's operations that could be investigated for upgraded mechanisation. 2

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Question 2 continues on page 6

Question 2 (continued)

- (c) Describe TWO methods of evaluating the effects of upgraded mechanisation on IND-TECH's operation. **4**

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- (d) Upgraded mechanisation will require staff training. Outline the advantages for IND-TECH and its workers of accessing training programs. **4**

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Question 2 continues on page 7

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Industrial Technology
Graphics Industries

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Centre Number

Section I (continued)

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Student Number

Question 3 (20 marks)

Please turn over

Question 3 (20 marks)

- (a) The following extract is from a draft report that was produced using computer software.



Half-Yearly Production Report
January 2003 – June 2003

<i>Production rate summary</i>		
<i>Month</i>	<i>Year</i>	<i>Production rate (units)</i>
January	2003	270
February	2003	300
March	2003	325
April	2003	335
May	2003	340
June	2003	370

Growth in production is due to:

- Improved technology
- Better training
- Fewer accidents in the workplace
- Increased access to raw materials

Page 1

- (i) Name a computer software application that could have been used to produce this report. **1**

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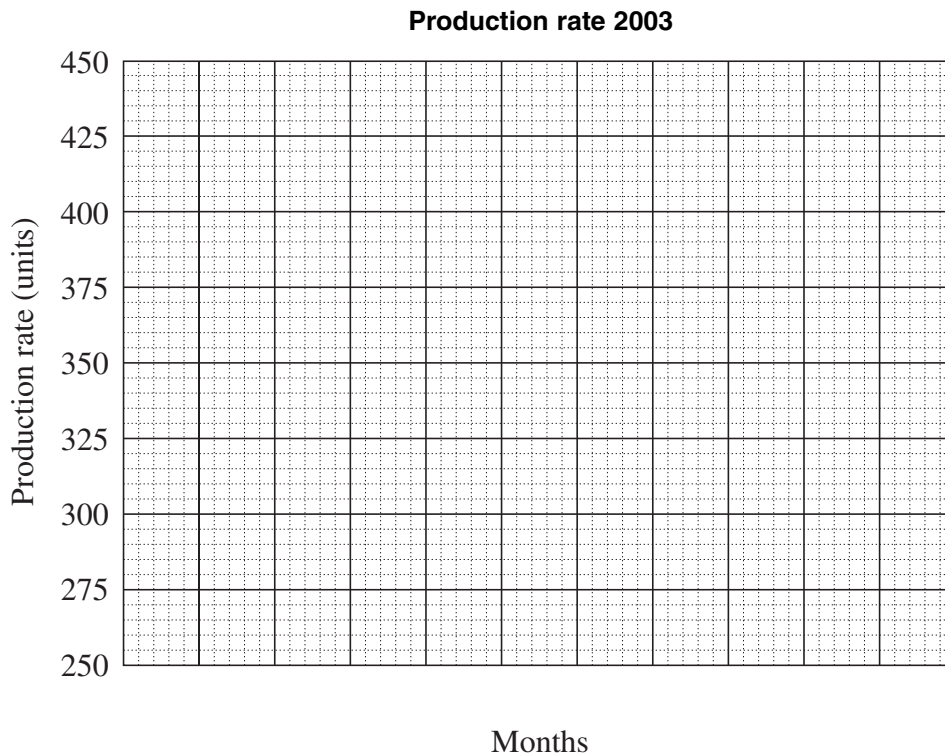
- (ii) Identify FOUR formatting features that have been used in the production of this report. **2**

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Question 3 continues on page 11

Question 3 (continued)

- (iii) (1) Use the information from the production report to: 3
 - produce a graph that shows the monthly production rate (indicate the months on the horizontal axis);
 - graph the average monthly production rate (January–June).
- (2) Assuming the production trend continues, indicate on the graph the predicted production rate for September 2003. 2



- (b) Materials handling injuries make up 40% of workplace injuries. Describe a procedure IND-TECH could implement to communicate improved materials handling strategies to its employees. 4

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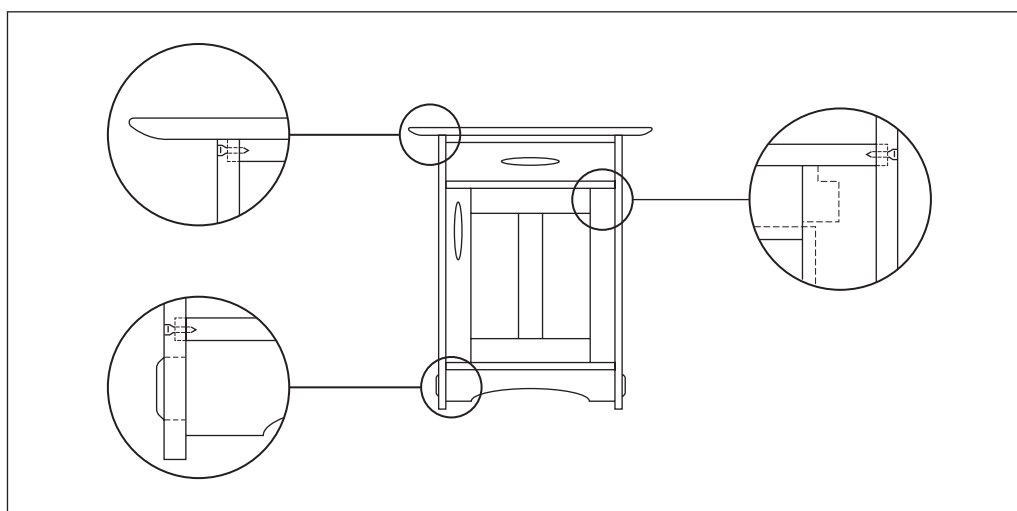
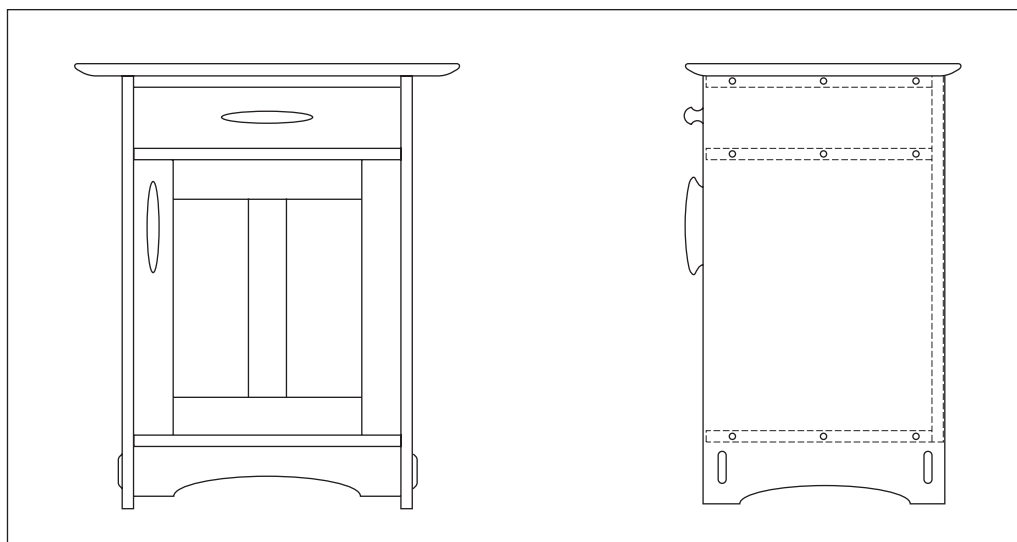
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Question 3 continues on page 12

Question 3 (continued)

- (c) In its new location, IND-TECH has an opportunity to reorganise its production system to make use of increased mechanisation and to improve efficiency. Shown below are CAD drawings produced by IND-TECH.

8



CAD drawings

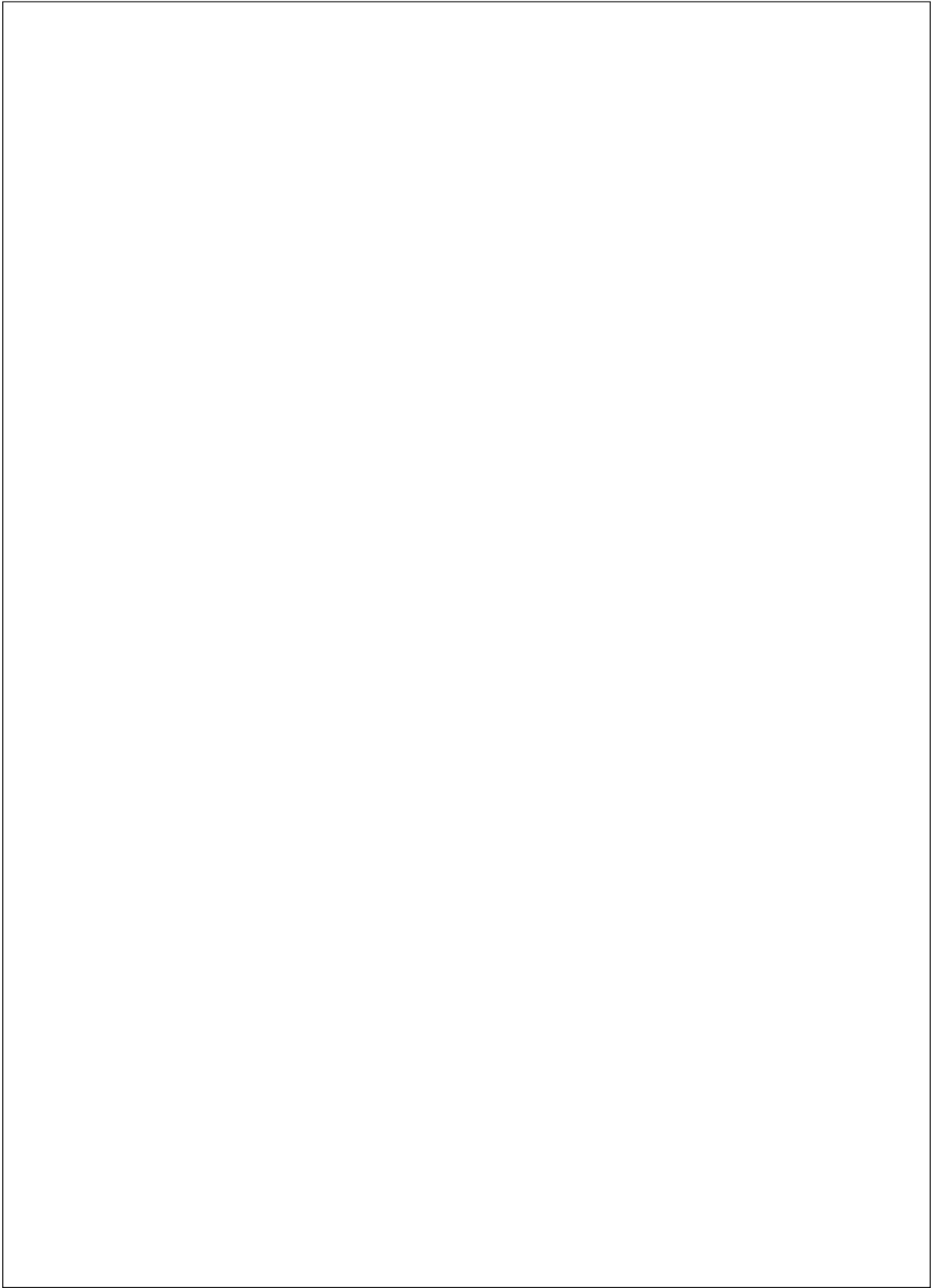
<http://www.uniqueprojects.com>

Based on your study of the graphics industry, use the space provided on page 13 to graphically represent the processes used to produce the CAD drawings shown. In your answer you should:

- show the sequencing of the processes;
- name each piece of equipment used;
- state the process carried out with each piece of equipment;
- indicate where quality control would occur, and what would be checked.

Question 3 continues on page 13

Question 3 (continued)



End of Question 3

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Student Number

Section II

40 marks

Attempt Questions 4–5

Allow about 35 minutes for this section

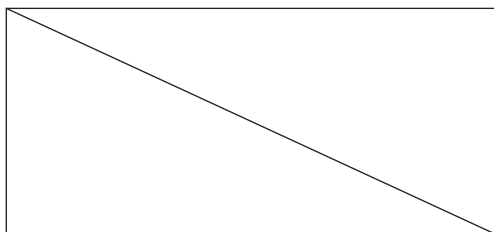
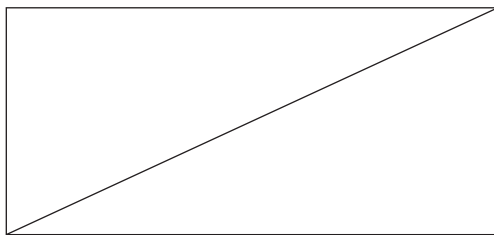
Answer the questions in the spaces provided.

Question 4 (20 marks)

A top view, front view and partially completed right-side view of a small block is shown.

(a) Sketch the RIGHT-SIDE VIEW of the block in the space provided.

2

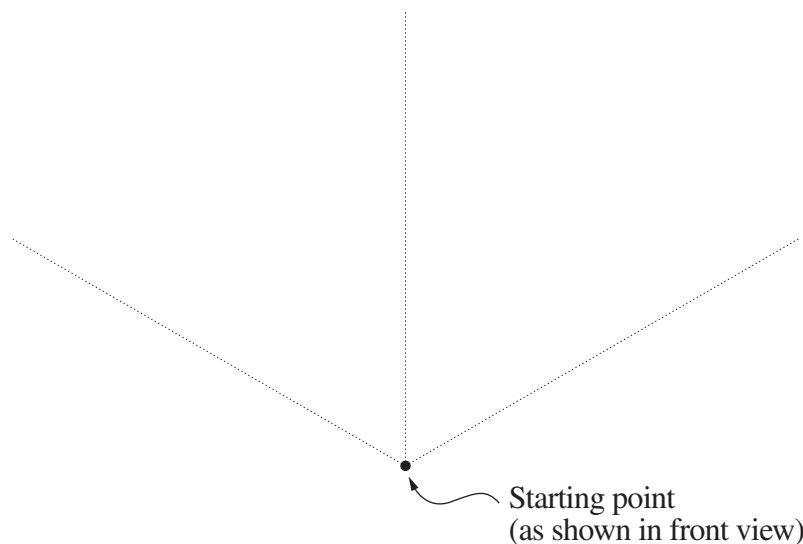
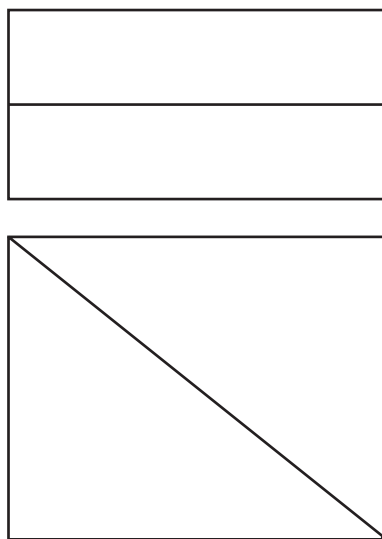


THIRD-ANGLE
PROJECTION

Question 4 continues on page 18

Question 4 (continued)

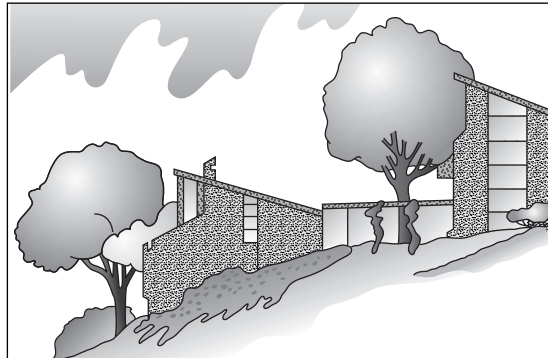
- (b) A front view and top view of a block are shown in third-angle projection. Make an isometric sketch of the block, using the starting lines provided. Your sketch must represent the sizes in the views provided. 2



Question 4 continues on page 19

Question 4 (continued)

(c) A rendered drawing produced by an architect is shown.



Discuss the advantages, for both the architect and the client, of drawings of this type.

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(d) A graphic designer has been employed to produce ‘concept’ drawings for the packaging of a new product. The drawings will form the basis of the presentation to the client.

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Describe the types of drawings that will be useful, and the reasons for their inclusion in the presentation to the client.

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Question 4 continues on page 20

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Centre Number

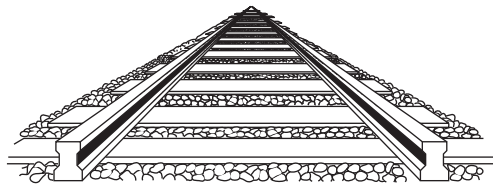
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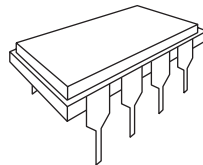
Section II (continued)

Marks

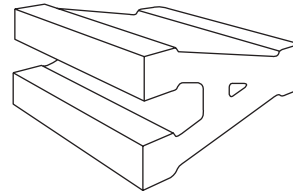
Question 5 (20 marks)



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2



3

Richard Tufnell, 1986, *Introducing Design and Communication*, Hutchinson Education, London.

(a) (i) Identify the type of pictorial drawing illustrated in the examples above. **1**

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(ii) State an advantage of this type of drawing over other forms of pictorial drawings. **1**

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(b) Identify graphics techniques that could be used to enhance drawings 2 and 3 above. **2**

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Question 5 continues on page 22

Question 5 (continued)

- (d) Increased emphasis is now placed on occupational health and safety (OHS) issues in the workplace. Organisations are now required to provide safe working conditions for their employees. **4**

Identify OHS issues faced by graphic designers who work for long hours in front of a computer monitor. Propose possible solutions to the issues you identify.

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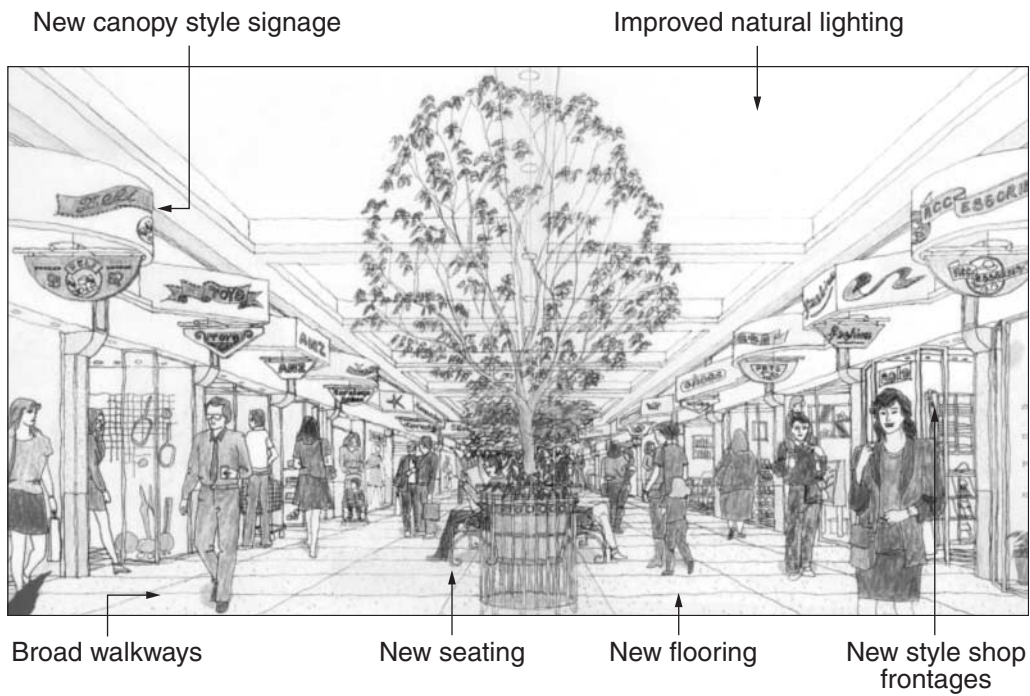
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Question 5 continues on page 24

Question 5 (continued)

(e) An architect's proposal for the redevelopment of part of a shopping centre is shown.

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Identify and discuss the steps an architect would undertake in developing a model and design concepts for the proposed shopping redevelopment.

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Question 5 continues on page 25

Question 5 (continued)

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