

INTERNATIONAL ADVANCED LEVEL  
**INFORMATION  
TECHNOLOGY**  
EXEMPLARS with  
commentaries-Unit 2

Pearson Edexcel International Advanced Subsidiary in Information Technology (XIT11)

Pearson Edexcel International Advanced Level in Information Technology (YIT11)

First teaching September 2018

First examination from June 2019

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August 2020 (International Advanced Level)

# Introduction

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## 1.1 About this booklet

This booklet has been produced to support teachers delivering the International Advanced Level Information Technology specification. The exemplar materials will enable teachers to support their students in the knowledge and skills required to successfully complete this course. The booklet looks at questions from the Sample Assessment Materials, showing sample responses to questions and how examiners have applied the mark schemes to demonstrate how the sample responses would be marked.

## 1.2 How to use this booklet

The Sample Assessment Materials have been used for exemplar responses, and each question contains:

- question number and question in full
- exemplar sample responses for each question
- exemplification with examiner commentary of the marker grading decision based on the Sample Assessment Materials mark scheme.

The exemplification highlights the achievement of the Assessment Objectives alongside exemplifications of the new format for long answer assessment through levels-based assessment bands, which centres are required to review carefully.

Centres should utilise the commentary on the exemplification of marker decisions to support their internal assessment of students and embed exam skills into the delivery of the specification.

It should be noted that the responses here have not been completed in examination conditions. Please note that the responses represent a small sample only and have not gone through the formal standardisation process.

## 1.3 Further support

A range of materials are available to download from the Information Technology page of the Pearson website to support you in planning and delivering the new specifications.

Centres may find it beneficial to review this document in conjunction with:

<https://qualifications.pearson.com/en/qualifications/edexcel-international-advanced-levels/information-technology-2018.coursematerials.html#filterQuery=Pearson-UK:Category%2FTeaching-and-learning-materials>

Command words shown in **red** are further explained in Appendix 6: Taxonomy, in the specification.

### Question 1

Web pages allow users to access information.

### Question 1a

Figure 1 shows HTML code for a table of contents.

```
18 <h1 id="TOC">Table of Contents</h1>
19
20
21 <a href="#fixqp">Fix the Error - Mark Scheme</a>
22 <a href="#fixms">Fix the Error - Question Paper</a>
23 <a href="#Intro">Introduction</a>
24 <a href="#Literature">Literature Review</a>
25 <a href="#Method">Methodology</a>
26 <a href="#Results">Results</a>
27
28 <h2 id="Intro">Introduction</h2>
29 <p>Some introductory text here.
30 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
31 Maecenas porttitor congue massa.
32 Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo
33 magna eros quis urna. Fusce est.</p>
```

Figure 1

**Explain** how lines 23 and 28 function together within the HTML code.

(2)

#### 1a Sample response 1 with commentary

Line 23 is being used to set up an internal link to an ID called 'Intro' (1)  
Line 28 is where the internal link has been set up with an ID 'Intro', the user will jump to here when they click the word 'Introduction' on line 23. (1)

**Awarded 2 marks**

#### Commentary 1

**One** mark was awarded for the link.

**One** mark was awarded for the justification.

<b>1a</b>	<b>Sample response 2</b>
<p>When the word 'introduction' on the page is pressed, the browser will reposition the page to show the text around line 28. (1)</p> <p style="text-align: right;"><b>Awarded 1 mark</b></p>	
<b>Commentary 2</b>	
<p><b>One</b> mark awarded for the link but there is no justification of why it repositions.</p>	

**Question 1b**

Figure 2 shows how the HTML code for a list of bicycles should be displayed in a browser.

The code should allow for any single item to be identified. For example, A2a is a bicycle suitable for a child under 10 years of age with an intermediate skill level.

A. Bicycle

1. Novice

a. Child  
Suitable for children under 10 years old

b. Teen  
Suitable for teenagers

2. Intermediate

a. Child  
Suitable for children under 10 years old

b. Teen  
Suitable for teenagers

3. Advanced

a. Child  
Suitable for children under 10 years old

b. Teen  
Suitable for teenagers

**Figure 2**

There are two errors in the HTML code which mean that the page does not display as intended.

Open file **Q01b.html** in a browser to identify the errors.

Open the file in your editor.

**Amend** the code to correct the **two** errors.

Save the amended code as **Q01bFINISHED.html**

**(2)**

<b>1b</b>	<b>Sample response 1 with commentary</b>
<pre> 7 8 &lt;ol type="A"&gt; </pre> <p>Line 8 has been amended to "A" to force an ordered uppercase alphabetical list (1)</p>	
<pre> 42 &lt;ol type="a"&gt; 43 &lt;li&gt; 44 &lt;dl&gt; 45 &lt;dt&gt;Child&lt;/dt&gt; 46 &lt;dd&gt;Suitable for children under 10 years old&lt;/dd&gt; 47 &lt;/dl&gt; 48 &lt;/li&gt; 49 &lt;li&gt; 50 &lt;dl&gt; 51 &lt;dt&gt;Teen&lt;/dt&gt; 52 &lt;dd&gt;Suitable for teenagers&lt; 53 &lt;/dl&gt; 54 &lt;/li&gt; 55 &lt;/ol&gt; </pre> <p>Line 42 has been amended from &lt;ul&gt; to ol (ordered list) with a type of "a" to force a lowercase alphabetical list and Line 55 has been amended to &lt;/ol&gt; from &lt;/ul&gt; to end the ordered list (1)</p>	
<b>Awarded 2 marks</b>	

<b>Question 1c</b>	
<p>The web page will display an image. Assume that:</p> <ul style="list-style-type: none"> <li>the image file will be in a folder called 'myImages'. The folder 'myImages' is located in the root directory of the website.</li> <li>the image file will be called 'coffeecup.png'</li> <li>the image must be displayed as 200 pixels by 300 pixels.</li> </ul> <p><b>Write</b> the HTML code to display this image. <span style="float: right;"><b>(2)</b></span></p>	

<b>1c</b>	<b>Sample response 1</b>
<pre>&lt;img src="/myImages/coffeecup.png" (1) width="200" height="300"&gt; (1)</pre> <p style="text-align: right;"><b>Awarded 2 marks</b></p>	

<b>Commentary</b>	
<p><b>One</b> mark was awarded for the source of the image being correctly specified.</p> <p><b>One</b> mark was awarded for the style of the image being correctly specified (width and height).</p>	

<b>Question 1d</b>	
<b>Explain</b> why it is important to use the 'lang' attribute on an HTML tag. <span style="float: right;"><b>(2)</b></span>	
<b>1d</b>	<b>Sample response 1</b>
<p>The 'lang' attribute sets the language of the page. (1) This will allow screen readers to return language specific results. (1)</p> <p style="text-align: right;"><b>Awarded 2 marks</b></p>	
<b>Commentary</b>	
<p><b>One</b> mark was awarded for the explanation of the use of the lang attribute.  <b>One</b> mark was awarded for the extension of why it is important.</p>	
<b>1d</b>	<b>Sample response 2</b>
<p>The 'lang' attribute sets the language of the page. (1) This allows a screen reader to produce the most appropriate pronunciation of words. (1)</p> <p style="text-align: right;"><b>Awarded 2 marks</b></p>	
<b>Commentary</b>	
<p><b>One</b> mark was awarded for the explanation of the use of the lang attribute.  <b>One</b> mark was awarded for the extension of why it is important.</p>	

## Question 2

Browsers use HTML and CSS together to display web pages.

### Question 2a

Figure 3 shows a dropdown menu from a web page. The items on the menu change colour when the mouse hovers over them.



Figure 3

Figure 4 is part of the HTML and CSS for the dropdown menu.

```
19 .dropdown-content {display: none;
20     position: absolute;
21     right: 0;
22     background-color: aquamarine;
23     min-width: 160px;}
24 .dropdown-content a:hover {background-color: pink}
25 </style>
26 </head>
27 <body>
28 <div class="dropdown" style="float:right;">
29     <button class="btndropdown">Flavours</button>
30     <div class="dropdown-content">
31         <a href="#">Vanilla</a>
32         <a href="#">Chocolate</a>
33         <a href="#">Strawberry</a>
34         <a href="#">Mango</a>
35     </div>
36 </div>
37 </body>
38 </html>
```

Figure 4

**Describe** how the CSS causes the hover effect on the dropdown menu selection. Include line numbers in your description.

(3)

<b>2a</b>	<b>Sample response 1</b>
-----------	--------------------------

The CSS class for the content (dropdown-content) sets the original colour as aquamarine on line 22. (1) The <a> HTML tag, on line 33, is connected to the CSS a:hover on line 24. (1) When the mouse is hovered over a flavour in the dropdown-content, line 24 is activated, causing the colour to change to pink. (1)

**Awarded 3 marks**

**Commentary**

**One** mark was awarded for describing the initial colour and how that was linked to CSS.

**One** mark was awarded for describing how the <a> tag was linked to the hover event in CSS code.

**One** mark was awarded for describing the colour change.

<b>2a</b>	<b>Sample response 2</b>
-----------	--------------------------

The original colour of the dropdown content is aquamarine, on line 22. (1) When the mouse is hovered over a flavour, the a:hover on line 24 is picked up, changing the colour to pink. (1)

**Awarded 2 marks**

**Commentary**

**One** mark was awarded for describing the initial colour and how that was linked to CSS.

**One** mark was awarded for describing the colour change.

There was no description of how the HTML links to the hover event, so the third mark was not awarded.

**Question 2b**

A block of text needs to be centred both horizontally and vertically on the page, regardless of the shape of the page.

Open the **Q02b.html** page in your editor.

There is an error in the CSS code that means it does not centre the text as specified.

**Amend** the code to correct the error.

Save the amended code as **Q02bFINISHED.html**

**(2)**

<b>2b</b>	<b>Sample response 1 with commentary</b>
<div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <pre> .mycontainer {   position: absolute;   top: 50%;   left: 50%;   transform: translate(-50%, -50%); } </pre> </div> <div> <p style="color: red;">relative has been changed to absolute (1)</p> <p style="color: blue;">Transform and translate (1) have been used along with top and left to horizontally and vertically centre on the page</p> </div> </div>	
<b>Awarded 2 marks</b>	

<b>Question 2c</b>	
<p>The web page needs a paragraph to be displayed in a box with rounded corners.</p> <ul style="list-style-type: none"> <li>The font size must be 2.5em.</li> <li>The background colour must be hot pink (#FF69B4).</li> <li>The radius of the corners must be 10 pixels.</li> </ul> <p>Open the file Q02c.html page in your editor.</p> <p><b>Amend</b> the code to complete the definition for #roundbox.</p> <p>Save the amended code as <b>Q02cFINISHED.html</b></p>	
<b>(3)</b>	

<b>2c</b>	<b>Sample response 1 with commentary</b>
<div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <pre> #roundbox {   background: #FF69B4;   font-size: 2.5em;   border-radius: 10px; } </pre> </div> <div> <p style="color: red;">Background colour has been correctly set (1)</p> <p style="color: blue;">Font size has been correctly set (1)</p> <p style="color: green;">Border radius has been correctly set (1)</p> </div> </div>	
<b>Awarded 3 marks</b>	

<b>Question 2d</b>	
<p><b>Explain</b> how CSS and HTML work together to define a web page.</p>	
<b>(2)</b>	
<b>2d</b>	<b>Sample response 1</b>
<p>HTML is used to define the content of the page (1) whereas CSS is used to style the content of the page. (1)</p>	
<b>Commentary</b>	
<p><b>One</b> mark has been awarded for identifying the purpose of HTML.</p> <p><b>One</b> mark has been awarded for the expansion as to how CSS works with the HTML.</p>	

<b>Question 3</b>
JavaScript provides interactivity for web pages.

<b>Question 3a</b>
<b>Describe</b> how JavaScript can be used to determine if an input is a number. <span style="float: right;"><b>(2)</b></span>

<b>3a</b>	<b>Sample response 1</b>
The isNaN (is not a number) function can be used. (1) This takes an input and if it is a number returns true otherwise it returns false. (1)	
<b>Awarded 2 marks</b>	

<b>Commentary</b>
<b>One</b> mark has been awarded for the identification of a suitable function. <b>One</b> mark has been awarded for describing what the function does.

<b>3a</b>	<b>Sample response 2</b>
<i>The typeof function can be used with = "number". (1) This takes an input and tests its data type. If it is a 'number' it will return true otherwise it will return false. (1)</i>	
<b>Awarded 2 marks</b>	

<b>Commentary</b>
<b>One</b> mark has been awarded for the identification of a suitable function. <b>One</b> mark has been awarded for describing what the function does.

<b>Question 3b</b>
Open the <b>Q03b.html</b> page in your editor.
There is an error in the JavaScript code that means it does not properly validate email addresses with more than one '@' symbol. For example, it gives the wrong result for the email 'someone@someone@somewhere.com'.
<b>Amend</b> the code to correct the error using a JavaScript iteration or loop.
Save the amended code as <b>Q03bFINISHED.html</b>
<b>(5)</b>

**3b** Sample response 1 with commentary

```
14 <script>
15   function checkEmail() {
16     var emailString = document.forms["myForm"]["email"].value;
17     var atPos = emailString.indexOf("@"); // Find first occurrence
18     var dotPos = emailString.lastIndexOf("."); // Find last occurrence
19
20     /* add code to ensure only 1 @ symbol is allowed in the email
21     address */
22     var numTimes = 0
23
24     for (var count=1; count <= emailString.length, count++){
25       if (emailString.charAt(count)=="@"){
26         numTimes++
27       }
28     }
29
30     if ((atPos < 1) ||
31         (dotPos < atPos + 2) ||
32         (numTimes > 1) ||
33         (dotPos + 2 >= emailString.length)) {
34       alert("You have entered an invalid email address");
35     }
36     else {
37       alert ("The email address is valid");
38     }
39   }
40 </script>
```

- Total counter declared (1)
- Each character in the string looked at (1)
- Each character in the string compared to the @ symbol (1)
- Additional test provided on the 'if' statement (1)
- The solution is functional (1)

**Awarded 5 marks**

**Question 3c**

Some JavaScript code includes an incomplete function to compare two numbers and display the smaller of the two numbers using an alert box.

Open the **Q03c.html** page in your editor.

**Amend** the code and complete the 'checkNumber' function.

Save the amended code as **Q03cFINISHED.html**

**(5)**

**3c** Sample response 1 with commentary

```
17   if (a < b) {
18     alert(a)
19   } else {
20     alert(b)
21   }
```

- Conditional test to see which of the two numbers is smallest (1)
- Appropriate relational operator (1)
- The correct output would be displayed – smallest of the two (1)

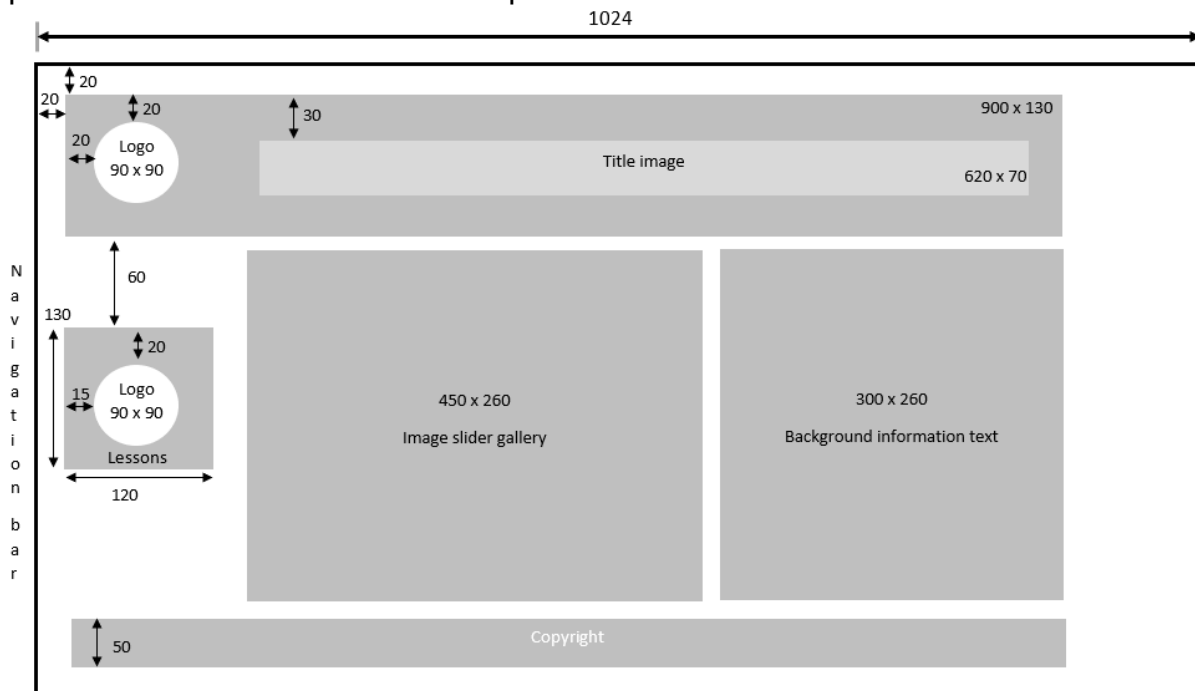
**Awarded 4 marks**

<b>3c</b>	<b>Sample response 2 with commentary</b>
<p>The code snippet shows two lines of JavaScript. The first line is <code>var compareNumbers = (a &lt; b) ? a : b;</code> and the second line is <code>alert(compareNumbers);</code>. Annotations include: a red box around the conditional test <code>(a &lt; b) ? a : b</code> with a red arrow pointing to it and the text "Conditional test to see which of the two numbers is smallest (1)"; a blue arrow pointing to the <code>&lt;</code> operator with the text "Appropriate relational operator (1)"; and a green arrow pointing to the <code>compareNumbers</code> variable in the <code>alert</code> function with the text "The correct output would be displayed – highest of the two (1)".</p>	
<b>Awarded 4 marks</b>	

<b>Question 3d</b>	
<p>The Document Object Model (DOM) is used to access the components on a web page.</p> <p><b>Identify</b> the method and property in this line.</p> <p><code>document.getElementById("myField").innerHTML</code></p> <p style="text-align: right;"><b>(2)</b></p>	
<b>3d</b>	<b>Sample response 1</b>
Method: <code>getElementById</code> (1)	
Property: <code>innerHTML</code> (1)	
<b>Commentary</b>	
<p><b>One</b> mark was awarded for identifying the method.</p> <p><b>One</b> mark was awarded for identifying the property.</p>	

## Question 4

Topside Skateboarding is a retail outlet dedicated to skateboarding. It wants you to redesign its website. You must develop a sample web page using the wireframe provided below. All numbers are in pixels.



### Overall page requirements

- Add a page title in the HTML.
- Character set must be UTF-8.
- Search engines should find this page if the word 'skateboarding' is entered.
- Use Arial, Helvetica, sans-serif for all text.
- Use HTML5 elements to define the different parts of the page.
- Use a fixed page layout.
- Include a link to the lessons page.
- Include an image slider to present images of skateboarding activities.
- Include background information text.
- Use an external style sheet that is linked to the HTML page.
- Float all components left.

All required images and information are supplied in the Q04 folder.  
No additional resources are required.

### Component requirements

#### Header

- Set the background colour to Navy (#000080).
- Position Logo.png and Title.png as shown on the wireframe. The logo image and title image can be found in the Q04 folder.

#### Navigation bar

Create a graphical link that:

- is the same size and in the same position as shown on the wireframe
- has the background colour set to Navy (#000080)
- includes Logo.png, positioned as shown on the wireframe
- includes the text 'Lessons' as shown on the wireframe
- has White (#ffffff) text, which is horizontally centred within the navigation bar
- opens lessonsPage.html

### **Image slider**

- Incorporate the image slider into the web page and position it as shown on the wireframe. The code for the image slider can be found in the Q04/ImageSlider folder.
- Add the four images provided to the image slider. The images can be found in the Q04/ImageSlider/Images folder.

### **Background information**

- Import textBackground.html as an iFrame into the page.
- Size and position the iFrame as shown on the wireframe.
- The text must not have a border.

### **Footer**

- Set the background colour to Navy (#000080).
- Insert the text 'Copyright'.
- Style the text to be White (#ffffff) and horizontally centred within the footer.

Using the information provided, create the web page and save as

**Q04FINISHED.html**, create the CSS and save as **Q04FINISHED.css**

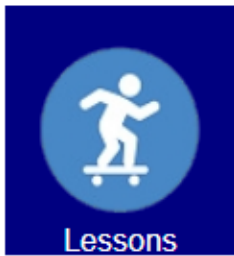
**(20)**

4

Sample response 1



# TopSide SKateboarding



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas porttitor congue massa. Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna. Nunc viverra imperdiet enim.

Fusce est. Vivamus a tellus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin naretra nonummy nede

Copyright

View of page in a browser window

#### 4 Sample response 1

##### Header

```
1 <!doctype html>
2 <head>
3   <meta charset="utf-8"/>
4   <meta name="keywords" content="skateboarding">
5   <link rel="stylesheet" type="text/css" href="Q04FINISHED.css">
6   <title>Topside Skateboarding</title>
7 </head>
```

HTML

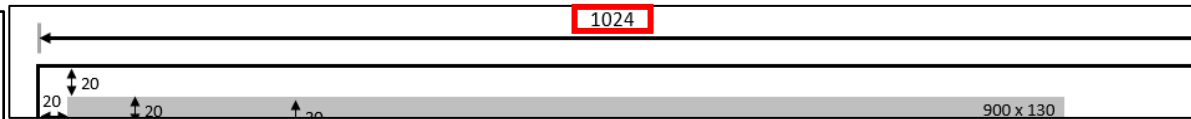
##### Overall page requirements

- Add a page title in the HTML (line 6)
- Character set must be UTF-8. (line 3)
- Search engines should find this page if the word 'skateboarding' is entered. (line 4, keyword 'skateboarding' used)
- Use an external style sheet (line 5)

##### Page

```
9 body {
10   margin-left: 20px;
11   margin-top: 20px;
12 }
```

CSS

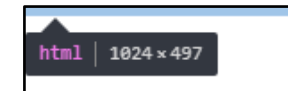


Wireframe

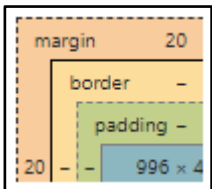
```
5 html {
6   width: 1024px;
7 }
```

```
14 body {
15   font-family: Arial, Helvetica, sans-serif;
16 }
17
```

CSS



Inspection window



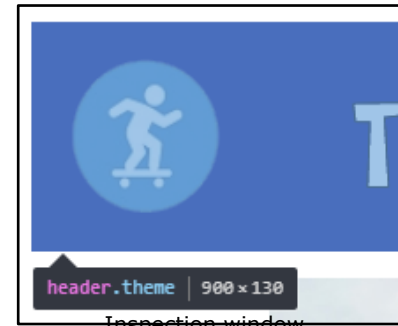
Inspection window

- The overall page width has been set to 1024 pixels as specified in the wireframe. (CSS line 6)
- 20-pixel margins have been set above and to the left of the header. (CSS lines 10-11)
- Arial, Helvetica, sans-serif has been specified as per overall page requirements. (CSS line 15)

## Header

```
9 <header class="theme">
10 
11 
12 </header>
```

HTML



Inspection window

```
27 header,
28 footer {
29   width: 900px;
30 }
```

CSS

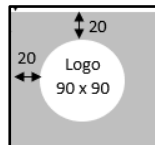


Wireframe

```
18 header {
19   height: 130px;
20 }
```

CSS

The width and height of the header have been set as specified (900 x 130 pixels) (CSS lines 19 and 29)



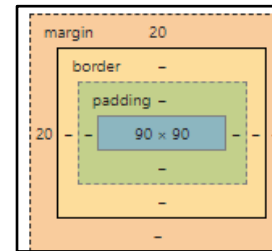
Wireframe

```
32 .logo {
33   width: 90px;
34   height: 90px;
35   margin-top: 20px;
36 }
37
38 .titleLogo {
39   margin-left: 20px;
40 }
```

CSS



Inspection window



### Style guide requirements

- Position Logo.png as shown on the wireframe. (HTML line 10, CSS lines 32-40)

Title image

### Style guide requirements

- Position Title.png as shown on the wireframe. (CSS lines 42-47)

```
42 .titleImage {  
43   width: 620px;  
44   height: 70px;  
45   margin-top: 30px;  
46   margin-left: 45px;  
47 }
```

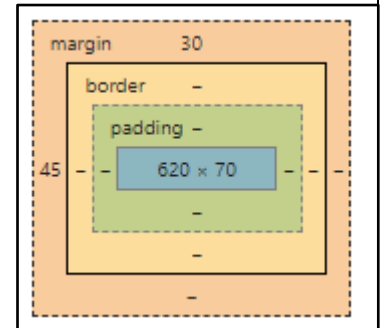
CSS



Wireframe



Inspection window



Inspection window

### Background

#### Style guide requirements

- Set the background colour to Navy (#000080). (CSS line 23)

```
22 .theme {  
23   background: #000080;  
24   color: #ffffff;  
25 }
```

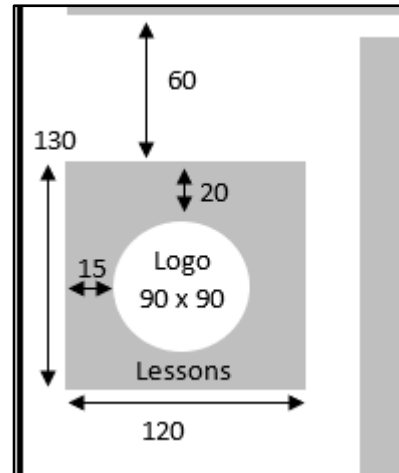
CSS

## Navigation bar

### Style guide requirements

Create a graphical link that:

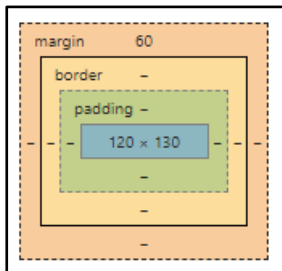
- is the same size and in the same position as shown on the wireframe (CSS lines 54 to 58)
- has the background colour set to Navy (#000080) (CSS line 23)
- includes Logo.png, positioned as shown on the wireframe (HTML line 15, CSS lines 32, 36)
- includes the text 'Lessons' as shown on the wireframe (HTML line 16)
- has White (#ffffff) text, which is horizontally centred within the navigation bar (HTML line 14, CSS line 34)
- opens lessonsPage.html (HTML line 15)



Wireframe

```
53 nav {
54     margin-top: 60px;
55     height: 130px;
56     width: 120px;
57     text-align: center;
58     float: left;
59 }
```

CSS



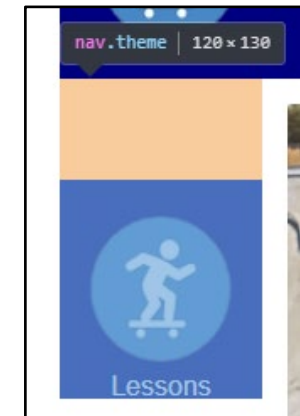
Inspection window

```
14 <nav class="theme">
15   <a href="BlankPage.html"></a>
16   <span>Lessons</span>
17 </nav>
```

HTML

```
22 .theme {
23     background: #000080;
24     color: #ffffff;
25 }
```

CSS



Inspection window

## Image slider

- Incorporate the image slider into the web page and position it as shown on the wireframe. The code for the image slider can be found in the Q04/ImageSlider folder. (HTML lines 20-31, CSS lines 72-100)
- Add the four images provided to the image slider. The images can be found in the Q04/ImageSlider/Images folder. (HTML lines 23-26)

```

19 <main>
20   <div class="slider">
21     <div class="slide-viewer">
22       <div class="slide-group">
23         <div class="slide slide-1"></div>
25         <div class="slide slide-2"></div>
27         <div class="slide slide-3"></div>
29         <div class="slide slide-4"></div>
31       </div>
32     </div>
33   </div>

```

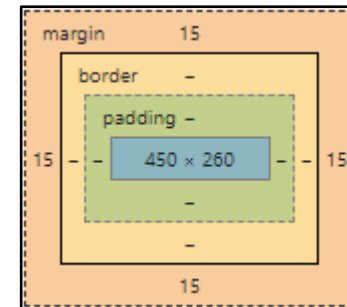
HTML



Inspection window



Wireframe



Inspection window

```

72 .slider {
73   width: 450px;
74   height: 260px;
75   margin: 15px;
76   float: left;
77 }
78
79 .slide-viewer {
80   position: relative;
81   overflow: hidden;
82   height: 260px;
83 }
84
85 .slide-group {
86   width: 100%;
87   height: 100%;
88   position: relative;
89 }
90
91 .slide {
92   width: 100%;
93   height: 100%;
94   display: none;
95   position: absolute;
96 }
97
98 .slide:first-child {
99   display: block;
100 }

```

CSS

## Background information

- Import TextBackground.html as an iFrame into the page. (HTML line 34)
- Size and position the iFrame as shown on the wireframe. (CSS line 102-106)
- The text must not have a border. (CSS line 105)

```
102  iframe {
103      height: 260px;
104      width: 300px;
105      border:0;
106  }
```

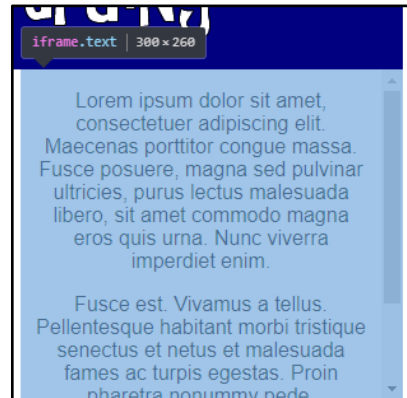
CSS

```
33  <article>
34      <iframe src="TextBackground.html"></iframe>
35  </article>
```

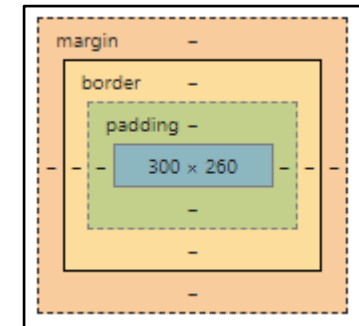
HTML



Wireframe



Inspection window



Inspection window

## Footer

- Set the background colour to Navy (#000080). (CSS line 23)
- Insert the text 'Copyright'. (HTML line 39)
- Style the text to be White (#ffffff) and horizontally centred within the footer. (CSS lines 24 and 69)

```
38 <footer class="theme">
39   <p>Copyright</p>
40 </footer>
```

HTML

```
27 header,
28 footer {
29   width: 900px;
30 }
```

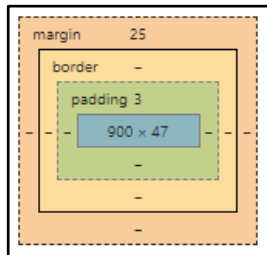
CSS

```
22 .theme {
23   background: #000080;
24   color: #ffffff;
25 }
```

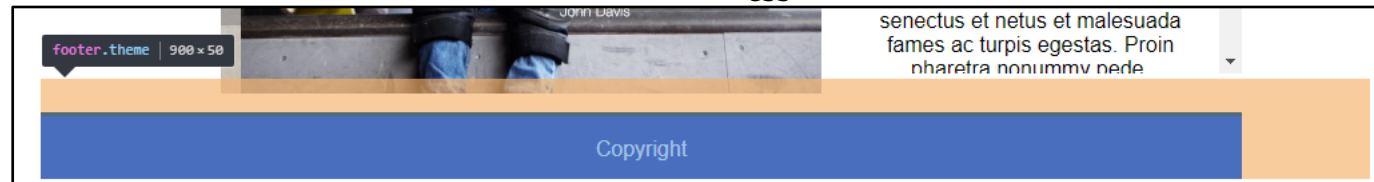
CSS

```
65 footer {
66   margin-top: 25px;
67   height: 50px;
68   padding-top: 3px;
69   text-align: center;
70 }
```

CSS



Inspection window



Inspection window

## Commentary

The marks for question 4 consist of 14 specific mark points and a further 6 marks awarded using levels based criteria. The maximum mark for question 4 is 20.

Possible individual marks that could be awarded		Mark awarded	Commentary
HTML - Head	<title></title> used to provide a page title	1	HTML line 6
HTML - Head	<meta name = "keywords" content="skateboarding"	1	HTML line 4
HTML - Head	Uses an external style sheet	1	HTML lines 5
HTML - Body	At least one HTML5 semantic element used to define part of the page: <header> <nav> <section> <article> <footer>	1	First occurrence of one of the given HTML5 semantic elements HTML line 9
CSS	The width of the page is set to 1024px and Left margin of the page is set to 20px Right margin of the page is set to 20px	1	CSS lines 6, 10-11
CSS	Arial, Helvetica, sans-serif used for all text	1	CSS line 15
CSS	Header, footer or logo link background (nav) set to Navy (#000080)	1	CSS line 23 First occurrence of colour applied HTML line 9
CSS	Lesson text or Copyright text is White (#ffffff)	1	CSS line 24 First occurrence of colour applied HTML line 14
CSS	Lessons text or Copyright text is horizontally centred	1	First occurrence CSS line 57 and HTML line 14
HTML - Body and CSS	At least one from: Logo in header Logo in navigation Title image Image slider gallery Iframe Positioned as shown on the wireframe	1	CSS lines 32-36, 39 HTML lines 10
HTML - Body and CSS	At least three from: Logo in header Logo in navigation	1	<b>Header logo</b> CSS lines 32-36, 39 HTML line 10

	Title image Image slider gallery Iframe Positioned as shown on the wireframe		<b>Title image</b> CSS lines 42-47 HTML line 11 <b>Nav logo</b> CSS lines 32-36, 62 HTML line 14
HTML – Body	A functioning internal link is included to lessonPage.html	1	HTML line 15
HTML – Body	The image slider is included on the page and all four of the provided images slide Award the mark if the image slider is not positioned as shown on the wireframe	1	HTML lines 20-31
HTML – Body	Text information inserted as an iFrame Do not award if iFrame has a border	1	HTML line 34 CSS line 105

<b>Levels based marks</b>					
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Mark awarded</b>
Adherence to component layout design	No awardable content	There is little adherence to the component layout design, leading to a solution that is not fit for purpose or is not suitable for the intended audience.	An attempt to adhere to the component layout design leads to a solution that is, in parts, fit for purpose and is, in parts, suitable for the intended audience.	The webpage fully adheres to the component layout design and style requirements. The resulting solution is fit for purpose and is suitable for the intended audience.	<b>3</b>
Application of CSS to control presentation	No awardable content	There is little attempt to make use of the facilities of CSS to control appearance and style. Most components rely on Default configuration.	An attempt has been made to use CSS to control the appearance and style of some components.  This has been successful in some cases.	Consistent and accurate application of CSS is used throughout to control the appearance and style of all components.	<b>3</b>
<b>Comments</b>					
<p>The criteria for the levels based marks will always be the same and marks are awarded using a holistic approach. The candidate will already have received the specific marks for the solution whereas the marks awarded here focus on the solution as a whole.</p> <p>The solution given goes beyond the specific mark points ensuring that all of the elements are sized and positions as specified, i.e. they have fully adhered to the component layout design and all of the styling requirements were taken into account, with presentation fully controlled using CSS within the external CSS file.</p>					

## Question 5

Topside Skateboarding needs to collect information about its visitors. They need a survey form to pop up when someone visits the site. You need to implement a prototype so that they can see how it would work.

All required files are supplied in the Q05 folder. No additional resources are required. You only need to add HTML and JavaScript to the existing files.

survey.html page

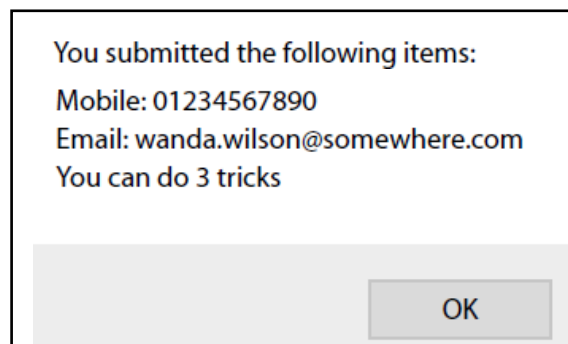
- Contains the survey questions for the visitors.

index.html page

- This is the main page.

Add dynamic behaviours

- survey.html page:
  - Add the ability for the user to indicate which tricks they can already do (laser flip, gingersnap, hurricane).
  - All items identifying tricks must use the same HTML name attribute. For example, name="tricks".
  - Implement a submit button that will activate a function to validate inputs.
  - Must implement a presence validation on email.
  - Must implement a length validation on mobile numbers if provided. Mobile numbers must be 11 characters long.
  - No other validation is necessary.
  - Create an alert box to display the collected information. Here is an example:



- index.html page:
  - The modal box should pop up automatically when the page is loaded.
  - Selecting the No button should close the modal dialog box.
  - Selecting the Yes button should close the modal dialog box and open the survey web page.

**(20)**

## 5 Sample response 1

### survey.html page:

- Add the ability for the user to indicate which tricks they can already do (laser flip, gingersnap, hurricane).
- All items identifying tricks must use the same HTML name attribute. For example, name="tricks".
- Implement a submit button that will activate a function to validate inputs must implement a presence validation on email.
- Must implement a length validation on mobile numbers if provided. Mobile numbers must be 11 characters long no other validation is necessary.
- Create an alert box to display the collected information.

```
14      <!-- add checkbox items here -->
15      <label>Laser flip</label>
16      <input type="checkbox" name="tricks"><br>
17      <label>Gingersnap</label>
18      <input type="checkbox" name="tricks"><br>
19      <label>Hurricane</label>
20      <input type="checkbox" name="tricks"><br>
```

HTML

```
31      /* if the email is blank or an input mobile does not
32      meet requirements then display an error message*/
33      if (email == ""){
34          alert("An email must be input")
35      }else if (mob.length >0 && acceptableMobile.test(mob)==false){
36          alert("The mobile number has to have 11 digits beginning with a 0")
37      }else{
38          //get the number of trick checkboxes ticked
39          var numTricks=document.querySelectorAll('input[type="checkbox"]:checked').length
40          //display alert message with details
41          var message="You submitted the following items:\nEmail: "+email+"\n"
42              message += "Mobile: "+mob+"\n"
43              message += "You can do "+numTricks+" tricks"
44          alert(message)
45      }
```

JavaScript

## Commentary

There were 8 specific marks that could be achieved for the survey.html page.

Marking point	Mark awarded	Comments
Adding a component for making multiple selections from a set of three options (e.g. checkboxes).	1	HTML lines 15-20. 3 checkboxes have been added.
Three options must belong to the same named group (name="tricks").	1	HTML lines 16, 18, 20. Checkboxes are all named "tricks".
Presence check on email implemented	1	JavaScript line 33.
Mobile length checked, only if email provided.	1	JavaScript line 35 <code>mob.length &gt; 0</code> used to check whether a mobile number is present and then <code>acceptableMobile.test(mob)==false</code> used to check whether matches the pattern of beginning with a 0 and being 11 digits long.
Error messages for errors: email blank, mobile wrong length.	1	JavaScript lines 34 and 36. Suitable error messages present for both potential errors.
Calculates the correct number of tricks.	1	JavaScript line 39
Displays the contents of email and mobile number.	1	JavaScript lines 41, 42 and 44
Displays total number of tricks.	1	JavaScript lines 43 and 44

## index.html

- The modal box should pop up automatically when the page is loaded.
- Add a Yes button and a No button to the modal dialog box.
- Selecting the No button should close the modal dialog box.
- Selecting the Yes button should close the modal dialog box and open the survey web page.

```
20 <script>
21 //add code to show the modal as the window loads
22 window.onload=function(){
23     modalBox.style.display = "block"
24 }
25
26 // Get the ID that triggered an event and deal with event
27 window.onclick = function(event) {
28     //If the user has clicked 'x' or outside of the modal box close
    the modal
29     if (event.target.id == "modalBox" || event.target.id=="close" ||
        event.target.id=="no") {
30         modalBox.style.display = "none"
31     } else if (event.target.id == "yes") {
32         window.location.href="survey.html"
33     }
34
35     //Add your code to deal with the Yes or No button being clicked
36 }
```

JavaScript

## Commentary

There were 3 specific marks that could be achieved for the index.html page.

Marking point	Mark awarded	Comments
Modal box displays automatically when page is loaded.	1	JavaScript lines 22-24
Selecting No closes modal box.	1	JavaScript line 29 has been extended to include    event.target.id=="no" Separate if statement(s) would also have been acceptable
Selecting Yes closes modal box and opens survey.	1	JavaScript lines 31 to 33 Else if statement has been incorporated to check for target.id of "yes". survey.html loaded line 32

Topic area	0	1	2	3	Mark awarded
<p>Appropriate functionality:</p> <ul style="list-style-type: none"> <li>components and code have been decomposed into appropriate parts</li> <li>dynamic behaviours are implemented in JavaScript.</li> </ul>	No awardable content	The component parts of the program are incorrect or incomplete, providing a program of limited functionality that meets some of the given requirements. Mostly inappropriate logic used.	The component parts of the program are complete, providing a functional program that meets some of the given requirements. Some parts of the logic are clear and mostly appropriate to the problem.	The component parts of the program are complete, providing a functional program that fully meets the given requirements. The logic is clear and appropriate to the problem.	3
<p>Appropriate interface design:</p> <ul style="list-style-type: none"> <li>error messages and other status reports</li> <li>Interactivity between JavaScript and HTML</li> </ul>	No awardable content	The design of the user interface lacks consideration for fitness for purpose and the intended audience.	The design of the user interface is in parts fit for purpose and addresses some of the needs of the intended audience.	The design of the user interface is fully fit for purpose and suitable for the intended audience.	3
<p>Appropriate use of notation:</p> <ul style="list-style-type: none"> <li>Presentation of JavaScript ensures clear readability</li> <li>comments provide clarity.</li> </ul>	No awardable content	<p>Uses programming constructs and techniques to produce some required outcomes in the code.</p> <p>Uses data types that are rarely appropriate to the problem.</p> <p>Limited use of accurate syntax.</p> <p>Limited appropriate use and manipulation of data structures.</p>	<p>Uses programming constructs and techniques to produce most of required outcomes in the code.</p> <p>Uses data types, some of which are appropriate to the problem.</p> <p>Uses mostly accurate syntax.</p> <p>Accesses and manipulates data structures to produce</p>	<p>Accurate programming constructs and techniques are used.</p> <p>Appropriate data types are selected.</p> <p>Accurate syntax is used.</p> <p>Data structures are accessed and manipulated efficiently.</p>	3

		<p>Some use of meaningful variable names with limited or unhelpful commenting.</p> <p>Parts of the code are clear and readable but much of it makes limited use of appropriate spacing and indentation.</p>	<p>mostly correct results and/or outcomes.</p> <p>Uses mostly meaningful variable names, with some use of appropriate commenting.</p> <p>Code is mostly clear and readable, making some use of appropriate spacing and indentation.</p>	<p>Meaningful variable names and comments are used throughout.</p> <p>Code is clear and readable, making effective use of appropriate spacing and indentation.</p>	
<b>Comments</b>					
<p>The criteria for the levels based marks will always be the same and are awarded using a holistic, best fit approach. The candidate will already have received the specific marks whereas the marks awarded here focus on the solution as a whole.</p> <p>In terms of index.html, the solution has appropriate functionality with the extra functionality to be added, fully decomposed into appropriate parts. Displaying the modal box as the page loads has been well incorporated using a new function. Functionality to include the clicking of buttons on the modal box has been well taken into account - the original <i>if</i> statement has been expanded to incorporate the clicking of 'no' on the modal box as opposed to creating a new statement to do essentially the same actions. An <i>else if</i> has been added to expand the code further to take into account the 'yes' button on the modal box being clicked rather than an entirely new <i>if</i> statement. In terms of survey.html, the solution also has appropriate functionality. The extra functionality has been decomposed well, i.e. presence check, length and format check, valid input and display. An <i>if..then..else if</i> statement has been efficiently used to incorporate these. The logic is appropriate and clear to follow.</p> <p>The design of the user interface is fully fit for purpose and the indented audience. survey.html includes specific error messages depending on the type of error, which would give the user a very good idea of what the error is and how to correct it. There is interactivity between JavaScript and HTML throughout both index.html and survey.html.</p> <p>Across index.html and survey.html, notation has been appropriately used though there is a slight weakness present. The programming constructs used are accurate and appropriate, e.g. the expansion of existing <i>if</i> statement in index.html and the use of <i>if..then..else</i> in survey.html. The variables introduced in survey.html (numTricks and message) use meaningful variable names and data types. Data structures have been accessed and manipulated efficiently throughout both pages. Whilst there was no requirement for the use of arrays etc., there was a requirement to access and manipulate objects, which are data structures. Code added is clear and readable and does make effective use of appropriate spacing and indentation.</p>					

The only slight weakness is in terms of commenting the code. Where code had been added in index.html, the comments have either not been added or not amended to take into account the changes made. Comments have been effectively added/amended in survey.html.

Overall, the very slight weakness does not holistically take the evidence out of band 3 and full marks can be awarded.

## Question 6

Open the **Q06.html** page in your editor.

Read the HTML carefully.

**Analyse** how the HTML does not meet the requirements of the Semantic Web and **recommend** how to amend it to meet those requirements.

(9)

6

### Sample response 1

One of the most important points of the Semantic Web is that it aids accessibility. For example screen readers can make use of the special semantic tags to enable a better experience for the user. This could be changing language or letting the user know where they are on the web page so they can make their mind up as to whether they want to listen to the content etc. Another important point is that it supports search engine optimisation (SEO) and can be used by search engines to easily find and return the most specific results from a search. A part of the requirements of the semantic web is that HTML5 tags should be used in a standard and meaningful way so that the designer's intentions can be known. This is good for accessibility and for search engine purposes.

The given HTML does include the good use of some of the new tags that would allow for some aspects of the designer's intentions to be known. The designer has included `<header>`, `<article>` and `<section>`, which does go some way in providing a screen reader with necessary information. The user would know where they were on the page and could jump through the content if they so wished. Search engines would be able to determine the type of content for the elements using HTML5 semantic tags. However, there are many places where the design could be changed to meet the semantic web requirements better and provide a better experience for a user using a screen reader.

For example, lines 14 to 16 are really navigation links. It would have been better for the designer to have used `<nav>` `</nav>` on lines 13 and 17 so that a screen reader could clearly indicate to the user that this was a navigation section.

Another area that could be improved is lines 25 to 27. This content is really at the same level as the other content of the article. Therefore, lines 25 and 27 could be replaced with `<section>``</section>`.

Lines 29 to 31 are really a footer. It would have been better for the designer to have specified this using `<footer>``</footer>` on lines 29 and 31.

Also those using a screen reader may not be able to see the images. The designer should have used alt tags on the images so that the user would at least know what the images show, making it a better experience.

**Awarded 9 marks**

### Commentary 1

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. Solution may contain some aspects that are appropriate, but is generally ineffective.
Level 2	4-6	Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. Solution is workable but may have minor issues.
Level 3	7-9	Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. Solution is appropriate and workable.

The criteria for the levels based marks will always be the same and are awarded using a holistic, best fit approach.

Sound understanding of the subject matter is shown throughout the **analysis**. The first paragraph includes statements about how the semantic web can be used and some of the requirements of HTML5 in terms of designing/creating web pages.

**Recommendations** are given on how to improve the page to meet the requirements better. All of the **recommendations** are workable and expanded upon to show how this would enable the page to meet semantic requirements, etc.

**Analysis** and **recommendations** are linked in a fluent and logical way throughout, leading to a response that shows a thorough understanding of the given issue.

### 6 Sample response 2

*The HTML code could be better to meet semantic requirements. It is not bad in some places but needs improvements in other places. This is what I think needs doing:*

1. *line 13 should be <nav> and line 17 should be </nav>*
2. *line 25 should be <section> and line 27 should be </section>*
3. *line 29 should be <footer> and line 31 should be </footer>*
4. *all of the images should have alt tags*

**Awarded 2 marks**

### Commentary 2

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. Solution may contain some aspects that are appropriate, but is generally ineffective.
Level 2	4-6	Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. Solution is workable but may have minor issues.
Level 3	7-9	Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. Solution is appropriate and workable.

The criteria for the levels based marks will always be the same and are awarded using a holistic, best fit approach.

There is no clear evidence of **analysis** in the response. Only **recommendations** are present and whilst they are workable, no expansion is present to say why the **recommendations** are relevant. They do not relate to **analysis** as no **analysis** is present.

Overall, the best fit for the evidence holistically is level 1. Whilst there is no rewardable material in terms of analysis, there are some appropriate solutions that are appropriate and workable.

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REGISTERED OFFICE: 80 STRAND, LONDON WC2R 0RL  
VAT REG NO GB 278 537121

GETTY IMAGES: ALEX BELMONLINSKY

