

## 1-23 Final Assessment

**Final Score:** 100 / 100 Points

**Attempts:** 3 out of unlimited

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### Results by category

The following table lists the topic areas tested by this assessment. When applicable, questions are tagged to multiple categories.

Configuring a Site for Responsive Design	2 of 2 Correct
CSS Box-Sizing	3 of 3 Correct
Flexbox & Grid-Based Layouts	3 of 3 Correct
Media Queries	2 of 2 Correct
Mobile vs. Desktop	1 of 1 Correct
Mobile-First Layouts	4 of 4 Correct
Responsive Background Images	1 of 1 Correct
The Picture Element	2 of 2 Correct
Understanding Grid-Based Layouts	1 of 1 Correct
What is Responsive Design?	1 of 1 Correct

### Question 1

5

A box is defined using the border-box model. It has a width of 600px, 25px of padding, a border 3px thick, and a margin of 10px. What will be the total width of the box?

- ☐ a) 610px
- ☐ b) 613px
- ✓ ☒ c) 620px
- ☐ d) 626px

**Feedback:** The correct answer is c. When using the border-box model, the size of the padding and border are included in the width property of the box; only the margin is added. So, to find the total width of this box, you take the value of the width property, 600px, and add that of the margin, 10px, times 2 because the margin

extends 10px from each side of the box. Thus, the total width is 620px.

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## Question 2

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Consider the following CSS for a mobile-first site. What problem does it have?

```
body { background-color: green; }  
@media (min-width: 400px) { body { background-color: blue; } }  
@media (min-width: 800px) { body { background-color: red; } }
```

- ☒ **a)** It may cause both media queries to load their CSS at the same time.
- ☐ **b)** It may break both media queries, causing neither of them to load when they should.
- ☐ **c)** The syntax is incorrect.
- ☐ **d)** None; the CSS has no problems.

**Feedback:** The correct answer is a. If the viewport is at least 800px wide, both media queries will return true, causing both CSS styles to load. While only the second query's style will apply, overriding the first, the extra loading may affect the site's performance. To prevent this, you could define the queries' parameters as width ranges—for example, (min-width: 400px) and (max-width: 799px)—rather than just minimums.

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## Question 3

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Consider the following CSS. When applied to a page, what color will the page's background be?

```
body { background-color: green; }  
body { background-color: blue; }
```

- ☐ **a)** green
- ☒ **b)** blue
- ☐ **c)** Neither; the statements will cancel each other out, leaving the background white.

**Feedback:** The correct answer is b. In CSS, the statements further down the stylesheet override those nearer the top. This is one reason mobile-first design is effective; by loading the less-demanding mobile layout first, and overriding it with the desktop layout only on appropriate devices, you save mobile devices from having to load the desktop site.

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## Question 4

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Consider the following media query. Under what conditions will its CSS styles apply?

```
@media only screen and (max-width: 400px or orientation: portrait) { ... }
```

- ☐ **a)** It will apply if the viewport is 400px wide or less, and in portrait orientation.
- ☐ **b)** It will apply if the viewport is either 400px wide or less, or in portrait orientation.
- ☐ **c)** It will apply only when the page is viewed on a screen (rather than printed), if the viewport is 400px wide or less and in portrait orientation.
- ☒ **d)** It will apply only when the page is viewed on a screen (rather than printed), if the viewport is either 400px wide or less, or in portrait orientation.

**Feedback:** The correct answer is d. The media type is set to "screen" and specified as "only," meaning the query will only return true if the page is being viewed on a screen, rather than being printed. In addition, one of the two media features defined in the parentheses must return true; either the viewport must be 400px wide or less, or it must be in portrait orientation. However, because the statement in the parentheses is "or" rather than "and," only one of the two requirements must be met for the query as a whole to return true and apply its CSS.

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## Question 5

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Imagine you're designing a Flexbox layout with 5 columns. You've decided you want to have a 3% wide margin between each one. How wide will each box be?

- ☒ a) 17.60%
- ☐ b) 20%
- ☐ c) 20.60%
- ☐ d) 23%

**Feedback:** The correct answer is a. With 5 columns, there will be 4 margins; 3% times 4 is 12%, leaving 88% of the width to be divided among the boxes. 88% divided by 5 is 17.6%.

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## Question 6

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In a CSS "box," what is the order of each box's parts, from inside to outside?

- ☐ a) content, padding, margin, border
- ☐ b) content, margin, border, padding
- ☒ c) content, padding, border, margin
- ☐ d) content, margin, padding, border

**Feedback:** The correct answer is c. The content of the box is surrounded by padding, which separates it from the border; the margin is applied outside the border, to separate the box from other elements.

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## Question 7

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In a meta viewport tag, the initial scale property sets which of the following?

- ☐ a) The default width of the page.
- ☒ b) The amount of zoom when the page loads.
- ☐ c) The fraction of the viewport the page occupies.
- ☐ d) The resolution of the page.

**Feedback:** The correct answer is b. The initial scale property determines how much zoom is applied to the page when it loads; it is typically set to a value of 1, which applies no zoom.

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## Question 8

The following code will produce two boxes. Which will be larger?

```
.div1 { width: 150px; height: 75px; padding: 100px; }  
.div2 { width: 200px; height: 75px; padding: 25px; box-sizing: border-box; }
```

- ✓ ☒ a) box 1
- ☐ b) box 2
- ☐ c) The boxes will be the same size.

**Feedback:** The correct answer is a. While box 2 is given a greater width than box 1, it uses the border-box sizing property, meaning its padding will be included in its total height and width, while box 1's padding will be added to its given height and width. So, box 1 will be 250px by 175px total, while box 2 will be 200px by 75px total.

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## Question 9

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True or false? Flexbox manages margins between elements automatically; they need not be manually defined alongside the flex-basis.

- ✓ ☒ True
- ☐ False

**Feedback:** The correct answer is True. As long as the flex-basis property is defined, Flexbox will automatically set appropriate margins between elements.

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## Question 10

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True or false? Images can scale up to fill space on larger devices without any problems.

- ☐ True
- ✓ ☒ False

**Feedback:** The correct answer is False. Scaling an image up from a small size causes "jaggies," making the image appear smudged and blurry as it scales up, since it doesn't have the resolution to display clearly at the larger size.

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## Question 11

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What is the recommended maximum number of breakpoints for a website?

- ☐ a) 1
- ☐ b) 2
- ☐ c) 3
- ✓ ☒ d) There is no maximum.

**Feedback:** The correct answer is d. Using more media queries in a site will not harm its performance, so there is no hard limit on how many breakpoints may be implemented.

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## Question 12

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What potential problem could be caused by the following code for a background image?

```
.bkgd { background-image:url('https://website.com/example-image-cropped.jpg'); }  
@media (min-width: 350px) { .bkgd { background-image:url('https://website.com/example-image.jpg'); }
```

- ✓ ☒ a) It may cause the first image to load at the same time as the second.
- ☐ b) It won't load an image for a viewport narrower than 350px.
- ☐ c) The syntax of the media query is incorrect.
- ☐ d) None; the above code is correct.

**Feedback:** The correct answer is a. Because the first background image is not within a media query, it will load regardless of the viewport dimensions; if the viewport is 350px wide or more, this will cause both images to load at the same time, slowing down the browser.

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## Question 13

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Where should the <meta viewport> tag be placed in an HTML document?

- ☐ a) At the top of the document, before all other tags.
- ☐ b) At the top of the <body> section.
- ☐ c) At the top of the <head> section.
- ✓ ☒ d) Anywhere within the <head> section.

**Feedback:** The correct answer is d. The <meta viewport> tag can go anywhere within the <head> tags of a document.

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## Question 14

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Which of the following code samples shows the correct syntax for a <picture> element?

- ☐ a) <picture> <source img="image-file-1.jpg" media="(min-width: ... )"> </picture>
- ✓ ☒ b) <picture> <source srcset="image-file-1.jpg" media="(min-width: ... )">  </picture>
- ☐ c) <picture> <img srcset="image-file-1.jpg" media="(min-width: ... )"> </picture>
- ☐ d) <picture> <img srcset="image-file-1.jpg" media="(min-width: ... )"> <source img="image-file-2.jpg"> </picture>

**Feedback:** The correct answer is b. A <picture> element has zero or more <source> elements, which it uses in combination with media queries to select the most appropriate image to display; and one <img> element, always last in the picture declaration block, which displays if none of the media queries return true, or if the

browser does not support the <picture> element.

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## Question 15

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Which of the following is set by the flex-basis property?

- ☐ a) The maximum amount a flex element can expand or shrink.
- ✓ ☒ b) The initial size of a flex element.
- ☐ c) The minimum size of a flex element.
- ☐ d) The maximum size of a flex element.

**Feedback:** The correct answer is b. The flex-basis property sets the base size, height, width, or both, of an element in a Flexbox container.

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## Question 16

5

Which of the following is true about a grid-based layout that has 4 columns spanning the entire width of the viewport?

- ☐ a) It has a total width of 25%.
- ✓ ☒ b) It has a total width of 100%.
- ☐ c) It must display 4 items in each row.
- ☐ d) It is automatically responsive, with no extra features needed.

**Feedback:** The correct answer is b. The total width of a grid that spans the whole viewport is always 100%, regardless of the width of the columns.

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## Question 17

5

Which of the following is true of a site using dropdown menus for navigation?

- ☐ a) It will function equally well on desktop and mobile devices.
- ☐ b) It will not function well on desktop devices.
- ✓ ☒ c) It will not function well on mobile devices.
- ☐ d) Dropdown menus are an outdated design, and should be avoided.

**Feedback:** The correct answer is c. While a desktop monitor offers plenty of screen space and easy scrolling, making dropdown menus a functional choice, mobile devices' smaller screens and slower scrolling make them less than ideal. When designing a mobile site, other forms of navigation should be used.

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## Question 18

5

Which of the following shows the correct syntax for a media query?

- ☐ a) .media {min-width: 400px ...}

- ☐ b) .media (min-width: 400px) { ... }
- ☐ c) @media {min-width: 400px ... }
- ✓ ☒ d) @media (min-width: 400px) { ... }

**Feedback:** The correct answer is d. Media queries begin with @media, have their parameters defined in parentheses, and the CSS code they activate in curly brackets.

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## Question 19

5

Which of the following statements about mobile-first layout design is false?

- ☐ a) It helps keep the design focused on the site's message.
- ☐ b) It improves the site's loading speed on smaller devices.
- ✓ ☒ c) It is superior to desktop-first design under all conditions.
- ☐ d) It is generally the preferred method for modern web design.

**Feedback:** The correct answer is c. While mobile-first design is most common today and generally more effective, there are certain conditions where a desktop-first design may be better, such as when retrofitting an older, non-responsive site with responsive features, or when creating responsive CSS tables.

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## Question 20

5

Which of the following technologies is not required to build a responsive website?

- ☐ a) HTML
- ☐ b) CSS
- ✓ ☒ c) JavaScript
- ☐ d) All of the above are required

**Feedback:** The correct answer is c. Only HTML and CSS are needed to make a website responsive.

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