

Name: _____

Date: _____

Answer Key: Data Architects: 7th Grade JavaScript Logic & CSS Grid Quiz

Calculate DOM manipulations and layout proportions using advanced CSS Box Model and event listener logic for responsive digital environments.

1. Which CSS property combination would be most efficient for creating a responsive 3-column layout where the sidebars stay a fixed width but the middle column absorbs all remaining space?

Answer: B) display: grid; grid-template-columns: 200px 1fr 200px;

The 'fr' unit in CSS Grid represents a fraction of the free space. By setting sidebars to pixels and the middle to 1fr, the middle dynamically fills the gap.

2. In the JavaScript event loop, an 'event listener' attached to a button will execute its callback function immediately when the script loads, regardless of user interaction.

Answer: B) False

Event listeners are asynchronous; the callback function 'listens' and only triggers when the specific event (like a click) occurs.

3. To change the background color of an element with the ID 'header' to 'midnightblue' whenever a user's mouse enters the area, which JavaScript method is used to target the ID?

Answer: C) document.getElementById('header')

getElementById is the most specific and performant way to select a unique element for manipulation in the DOM.

4. If an HTML element has a set width of 300px, 20px of padding on all sides, and a 5px border, what is the total calculated space it occupies in the standard W3C Box Model?

Answer: C) 350px

In the standard box model, Total Width = Left Border (5) + Left Padding (20) + content width (300) + Right Padding (20) + Right Border (5) = 350px.

5. In CSS, which pseudo-class is utilized to apply styles to an anchor tag (<a>) only after the user has already clicked and navigated to that destination?

Answer: C) :visited

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The :visited pseudo-class allows developers to provide visual feedback to users about their browsing history.

6. Consider this JS code: let x = 10; x += 5; x = x * 2; What is the final value of x?

Answer: D) 30

Starting at 10, += 5 makes it 15. Then 15 * 2 equals 30.

7. In Semantic HTML, using the <section> tag provides the exact same SEO and accessibility benefits as using a <div> tag.

Answer: B) False

Semantic tags like <section> provide context to screen readers and search engines, whereas <div> is a generic container with no inherent meaning.

8. Which of the following JavaScript statements would successfully hide an element from view but keep its space reserved in the page layout?

Answer: B) element.style.visibility = 'hidden';

display: none removes the element from the flow. visibility: hidden hides it while maintaining the physical space it occupies.

9. When creating an internal link to a specific part of a page, what HTML attribute must be present on the target element to match the 'href' value (e.g.,)?

Answer: B) id='bio'

The hashtag in a URL fragment references a unique ID on the page, allowing the browser to jump directly to that element.

10. External CSS files are linked within the <body> section of an HTML document to ensure the styles load after the content.

Answer: B) False

CSS files are typically linked in the <head> section to ensure the browser knows how to style the elements before they are rendered on the screen.