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Operation DOM Manipulation: A 9th Grade Web Architecture Quiz

Ninth graders synthesize DOM events, CSS specificity, and asynchronous logic to debug complex web interfaces and optimize user experiences.

1. If a developer applies an inline style of 'color: red' to a paragraph, but an external stylesheet uses an ID selector for that same element setting it to 'color: blue', which color will render according to CSS specificity rules?

- A. Blue, because ID selectors have the highest specificity.
- B. Red, because inline styles override ID and class selectors.
- C. The browser chooses the color that appears latest in the document flow.
- D. Purple, as the browser merges the two conflicting declarations.

2. The Document Object Model (DOM) is a programming interface that represents the HTML document as a tree structure, where each node is an object representing part of the document.

- A. True
- B. False

3. When building a responsive dashboard, which CSS layout module is best suited for aligning items in a single dimension (either a row or a column) with flexible sizing?

- A. CSS Grid
- B. Block Formatting Context
- C. Flexbox
- D. Absolute Positioning

4. Analyze the following JavaScript snippet: [let x = '5'; let y = 2; console.log(x + y);]. What is the output and why?

- A. 7, because JavaScript automatically converts the string to a number.
- B. NaN, because you cannot add a string and a number.
- C. 52, because JavaScript performs type coercion and treats the plus sign as concatenation.
- D. Undefined, because the variables were not properly typed.

5. Semantic HTML tags like <main>, <article>, and <section> are primarily used to increase the visual font size of the text for users.

- A. True
- B. False

6. In the context of the Critical Rendering Path, which JavaScript method is most appropriate for selecting all elements with the class name 'gallery-item' to apply a transition?

- A. document.getElementById('gallery-item')
- B. document.querySelector('.gallery-item')

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- C. `document.querySelectorAll('.gallery-item')`
- D. `document.getElementsByTagName('gallery-item')`

7. Which of the following describes the behavior of 'Asynchronous' JavaScript execution (such as using Fetch API)?

- A. The script stops all execution until a server response is received.
- B. The script continues running other tasks while waiting for a background task to finish.
- C. The script executes lines of code from bottom to top.
- D. The script requires a CSS file to initiate the request.

8. To ensure a website is accessible to users with visual impairments, which HTML attribute must be included on tags to describe the image content?

- A. `title`
- B. `src`
- C. `href`
- D. `alt`

9. If you set an element's CSS position property to 'absolute', it is positioned relative to its nearest positioned ancestor rather than the browser window itself.

- A. True
- B. False

10. In the context of Event Bubbling, what happens when a user clicks a nested <button> inside a <div> that both have click event listeners?

- A. Only the button listener fires.
- B. Only the div listener fires.
- C. The button listener fires first, followed by the div listener.
- D. Neither listener fires because of a conflict.