

# CSS Units

- CSS has several different units for expressing a length.
- Many CSS properties take "length" values, such as width, margin, padding, font-size, etc.
- The length value is a number followed by a length unit, such as px, em, rem, etc.
- CSS has two types of length units:
  - Absolute units
  - Relative units

## CSS Absolute Units

- Absolute units are fixed, and the length expressed in any of these will appear exactly that size.
- Absolute units do not change when the screen size changes and are not recommended for websites. However, they can be used if the output medium is known, such as for print layout.
- The most used absolute unit is px (pixels).

Unit	Description
px	pixels (1px = 1/96th of 1in)
cm	centimeters
mm	millimeters
in	inches (1in = 96px = 2.54cm)
pt	points (1pt = 1/72 of 1in)
pc	picas (1pc = 12 pt)

### Example:

- ```
h1 {  
    font-size: 40px;  
}  
• h2 {  
    font-size: 30px;
```

}

## CSS Relative Units

- Relative units specify a length relative to another length (like parent element, root element, or viewport).
- Relative length units scale better between different screen sizes.

| Unit        | Description                                                                        |
|-------------|------------------------------------------------------------------------------------|
| <b>em</b>   | Relative to the font-size of the parent element                                    |
| <b>ex</b>   | Relative to the x-height of the current font (rarely used)                         |
| <b>ch</b>   | Relative to width of the "0" (zero)                                                |
| <b>fr</b>   | A fractional unit. 1fr equals 1 part of the available space                        |
| <b>rem</b>  | Relative to the font-size of the root HTML element                                 |
| <b>vw</b>   | Relative to 1% of the width of the viewport*. 100vw = full width of the viewport   |
| <b>vh</b>   | Relative to 1% of the height of the viewport*. 100vh = full height of the viewport |
| <b>vmin</b> | Relative to 1% of viewport's* smaller dimension                                    |
| <b>vmax</b> | Relative to 1% of viewport's* larger dimension                                     |
| <b>%</b>    | Relative to the size of the parent element                                         |

\* Viewport = the browser window size. 1vw = 1% of the current width of the browser's viewport. So, if the viewport is 500px wide, 1vw is 5px.

### Example:

- `body{  
 font-size: 16px; /* Base font size */  
}`
- `h1{  
 font-size: 2.5em; /*  $2.5 * 16 = 40px$  */  
}`
- `html{  
 font-size: 16px; /* Set the root font size */  
}`

```
}

• h1 {
    font-size: 2.5rem; /* 2.5 * 16 = 40px */
}
```