HOW CSS VALUES ARE PROCESSED
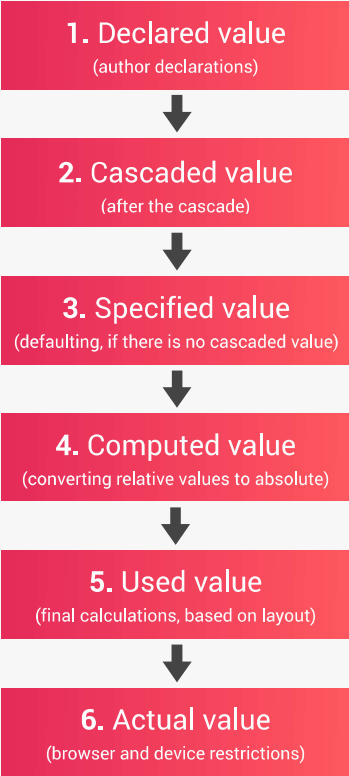
	width (paragraph)	padding (paragraph)	font-size (root)	font-size (section)	font-size (paragraph)
1. Declared value (author declarations)	140px 66%	–	–	1.5rem	–
2. Cascaded value (after the cascade)	66%	–	16px (Browser default)	1.5rem	–
3. Specified value (defaulting, if there is no cascaded value)	66%	0px (Initial value)	16px	1.5rem	24px
4. Computed value (converting relative values to absolute)	66%	0px	16px	24px (1.5 * 16px)	24px
5. Used value (final calculations, based on layout)	184.8px	0px	16px	24px	24px
6. Actual value (browser and device restrictions)	185px	0px	16px	24px	24px

(66% of 280px)

INHERITANCE

```
<div class="section">
  <p class="amazing">CSS is absolutely amazing</p>
</div>
```

```
.section {
  font-size: 1.5rem;
  width: 280px;
  background-color: orangered;
}

p {
  width: 140px;
  background-color: green;
}

.amazing {
  width: 66%;
}
```

CSS is absolutely amazing

(Let's analyse the green paragraph)

HOW UNITS ARE CONVERTED FROM RELATIVE TO ABSOLUTE (PX)

	Example (x)		How to convert to pixels		Result in pixels
% (fonts)	150%	——	x% * parent's computed font-size	⟶	24px
% (lengths)	10%	——	x% * parent's computed **width**	⟶	100px
em (font)	3em	——	x * **parent** computed font-size	⟶	72px (3 * 24)
em (lengths)	2em	——	x * **current element** computed font-size	⟶	48px
rem	10rem	——	x * **root** computed font-size	⟶	160px
vh	90vh	——	x * 1% of viewport height	⟶	90% of the current viewport height
vw	80vw	——	x * 1% of viewport width	⟶	80% of the current viewport width

Font-based

Viewport-based

4. Computed value
(converting relative values to absolute)

```
html, body {
    font-size: 16px;
    width: 80vw;
}

header {
    font-size: 150%;
    padding: 2em;
    margin-bottom: 10rem;
    height: 90vh;
    width: 1000px;
}

.header-child {
    font-size: 3em;
    padding: 10%;
}
```

CSS VALUE PROCESSING: WHAT YOU NEED TO KNOW

- Each property has an initial value, used if nothing is declared (and if there is no inheritance — see next lecture);

- Browsers specify a **root font-size** for each page (usually `16px`);

- Percentages and relative values are always converted to pixels;

- Percentages are measured relative to their parent's `font-size`, if used to specify `font-size`;

- Percentages are measured relative to their parent's `width`, if used to specify lengths;

- em are measured relative to their **parent** `font-size`, if used to specify `font-size`;

- em are measured relative to the **current** `font-size`, if used to specify lengths;

- `rem` are always measured relative to the **document's root** `font-size`;

- `vh` and `vw` are simply percentage measurements of the viewport's `height` and `width`.