

CSS

CSS FUNDAMENTALS

Units



IN A ROCKET

Learn front-end development at *rocket speed*

**ABSOLUTE
UNITS**

**RELATIVE
UNITS**

ABSOLUTE UNITS

px

pixel

1/96 of 1 inch
(96px = 1 inch)

pt

point

1/72 of 1 inch
(72pt = 1 inch)

pc

pica

12pt = 1pc

mm

millimeter

1cm = 10mm

cm

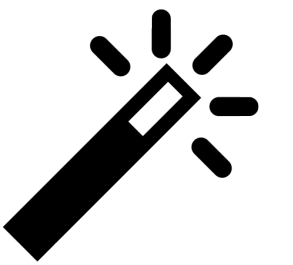
centimeter

10mm = 1cm

in

inch

2.54 cm = 1 inch



Pixels are bad for usability:

- they don't scale,
- they don't help other elements to scale proportionally.

Use them only when you really need an exact and fixed size.

EXAMPLE

```
border: 1px solid #000;
```

**ABSOLUTE
UNITS**

**RELATIVE
UNITS**

RELATIVE UNITS

%

Percentage

Relative to the parent element's value for that property.

em

Em

Relative to the current font-size of the element.

rem

Root em

Relative to the font-size of the root.

ch

Character

Relative to width of the "0".

vw

Viewport width

Relative to the width of viewport.
 $1vw = 1/100$ of the viewport's width.

vh

Viewport height

Relative to the height of viewport.
 $1vh = 1/100$ of the viewport's height.

vmin

Smaller dimension

$1vmin = 1/100$ of viewport's smaller dimension.

vmax

Larger dimension

$1vmax = 1/100$ of viewport's larger dimension.

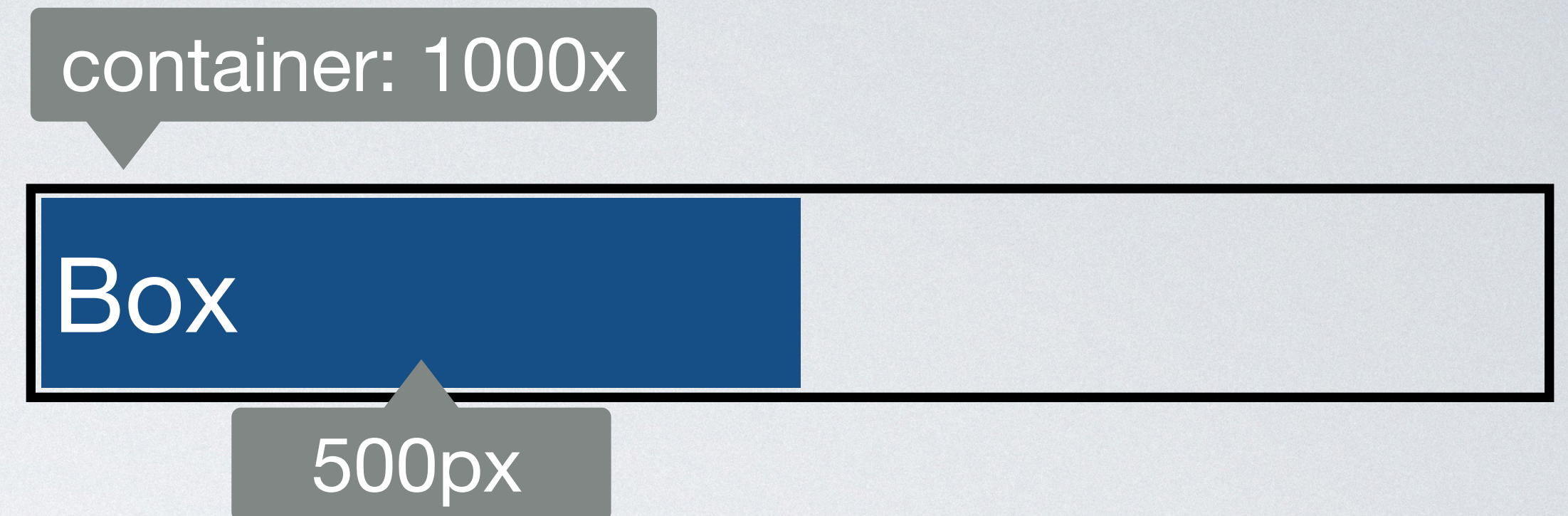
ex

x-height

Relative to the height of a lower-case x.

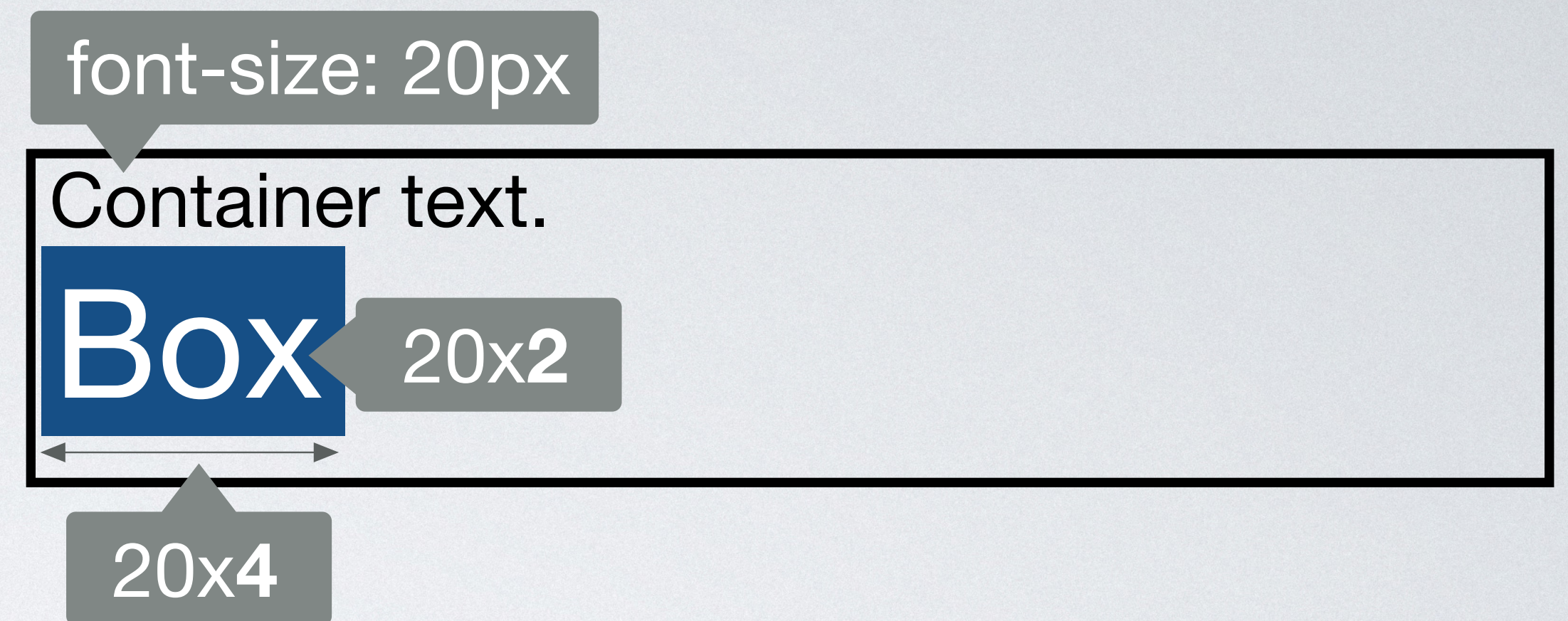
RELATIVE UNITS / PERCENTAGE

```
.box { width: 50%; }
```



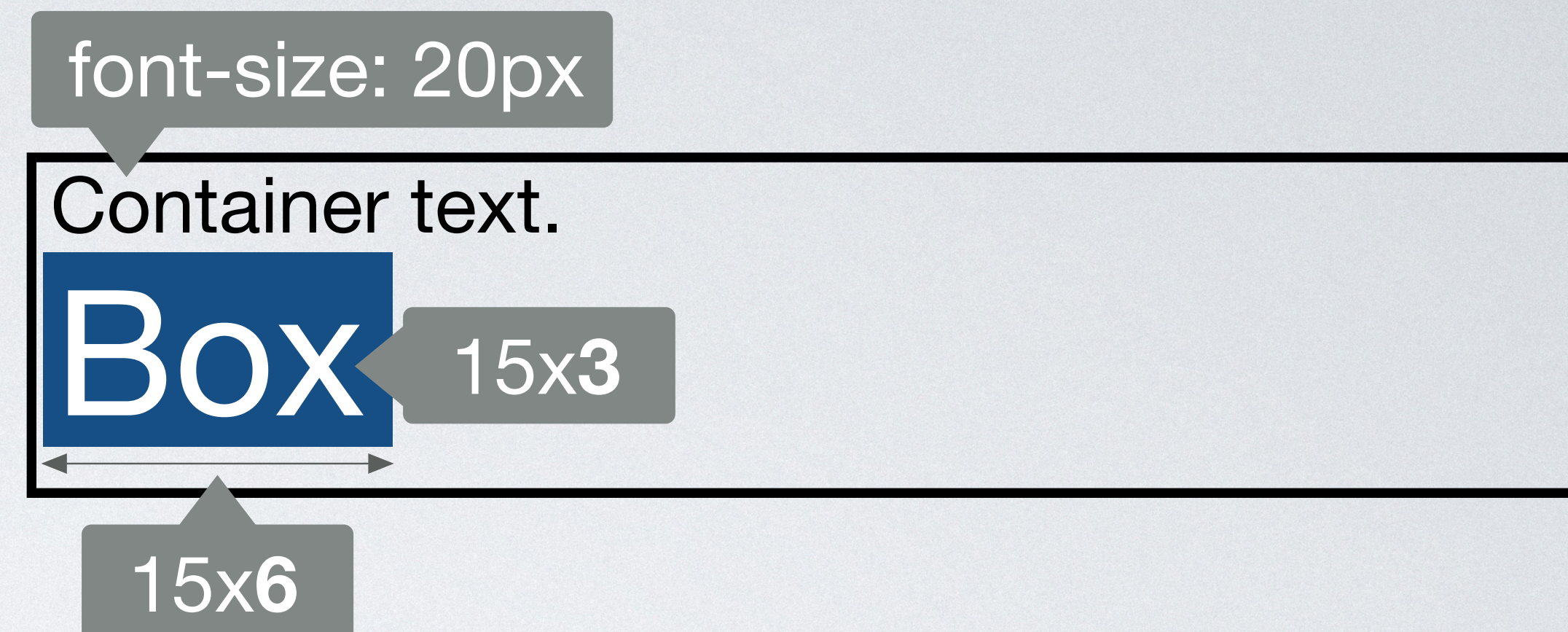
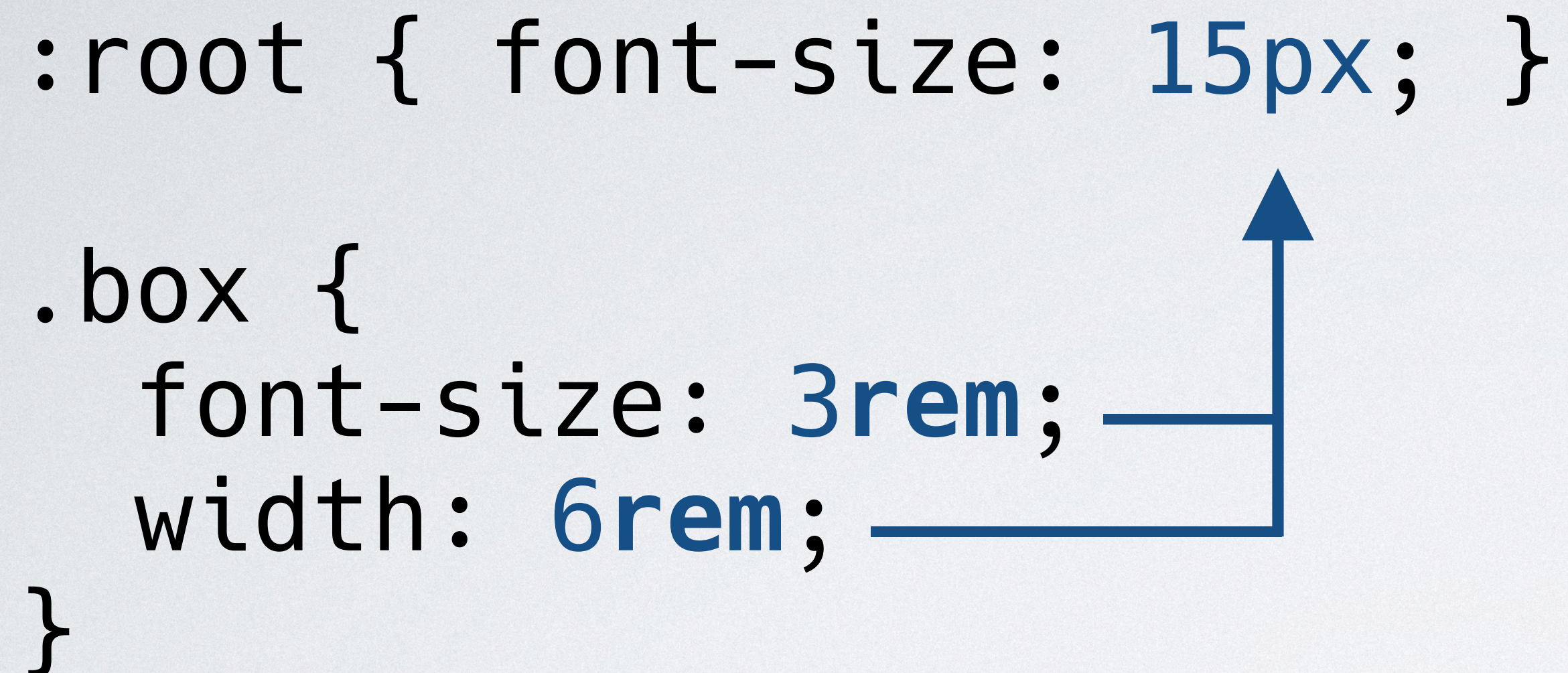
RELATIVE UNITS / EM

```
.box {  
  font-size: 2em;  
  width: 4em;  
}
```



RELATIVE UNITS / REM

```
:root { font-size: 15px; }  
  
.box {  
  font-size: 3rem;  
  width: 6rem;  
}
```



RELATIVE UNITS / REM vs EM

EM

```
html {font-size: 100%;} /* 16px */

h1 {
  font-size: 2em; /* 1em = 16px */
  margin-bottom: 1em; /* 1em = 32px */
}

p {
  font-size: 1em; /* 1em = 16px */
  margin-bottom: 1em; /* 1em = 16px */
}
```

REM

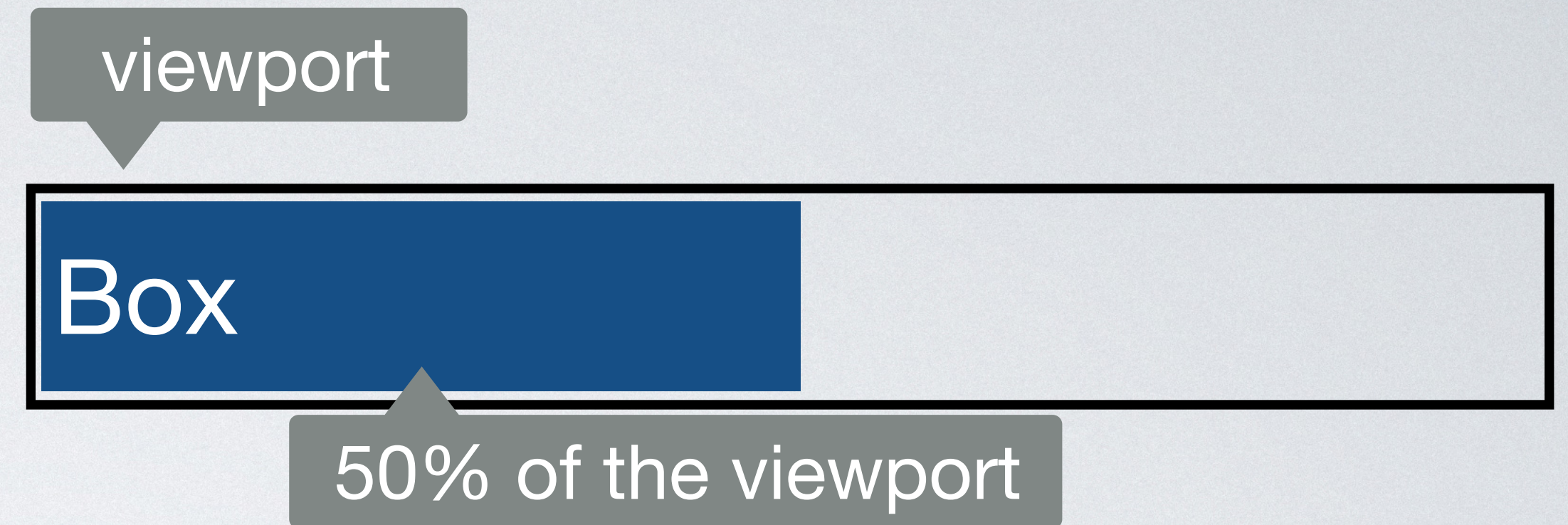
```
html {font-size: 100%;} /* 16px */

h1 {
  font-size: 2rem; /* 1em = 16px */
  margin-bottom: 1rem; /* 1em = 16px */
}

p {
  font-size: 1rem; /* 1em = 16px */
  margin-bottom: 1rem; /* 1em = 16px */
}
```

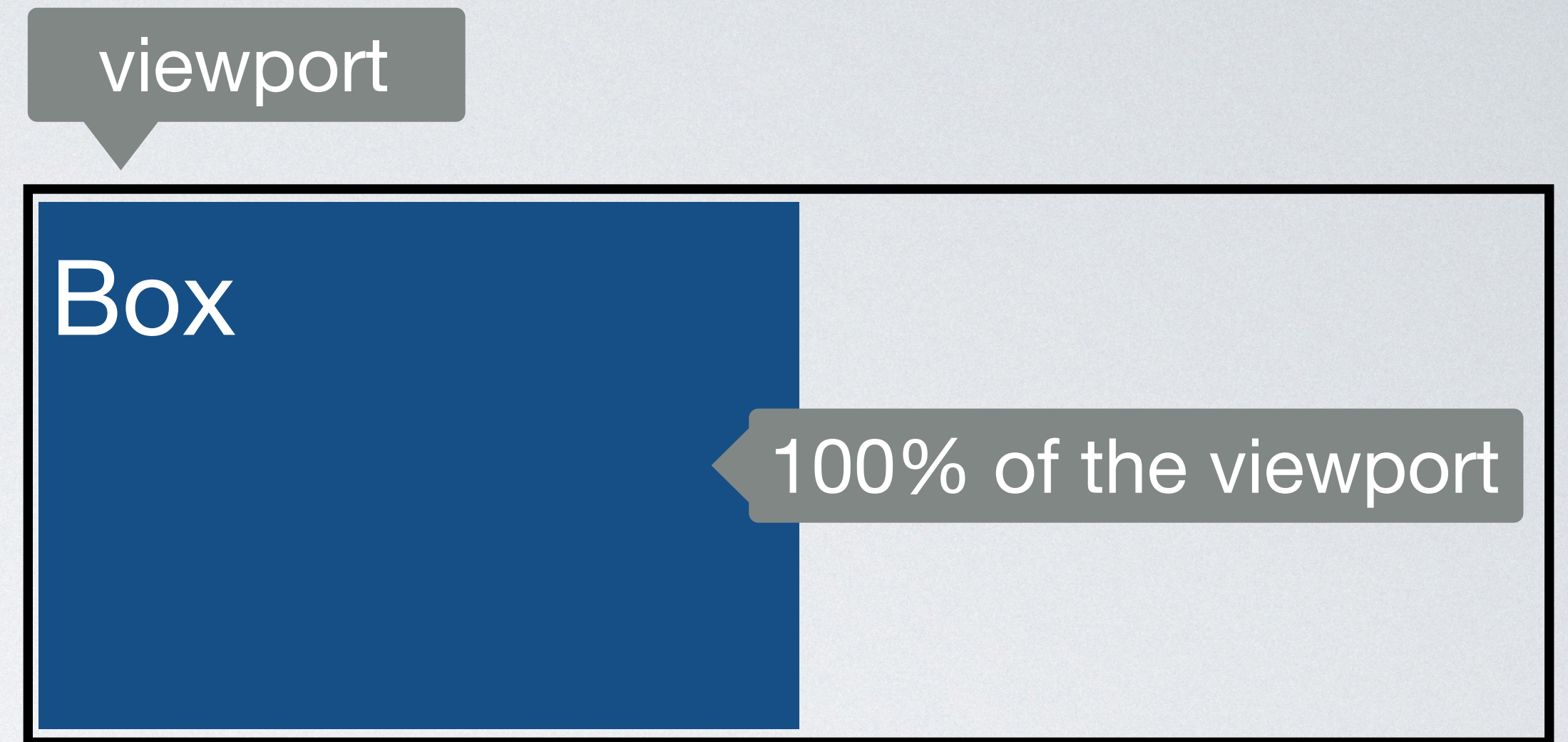
RELATIVE UNITS / VW

```
.box {  
  width: 50vw;  
}
```



RELATIVE UNITS / VH

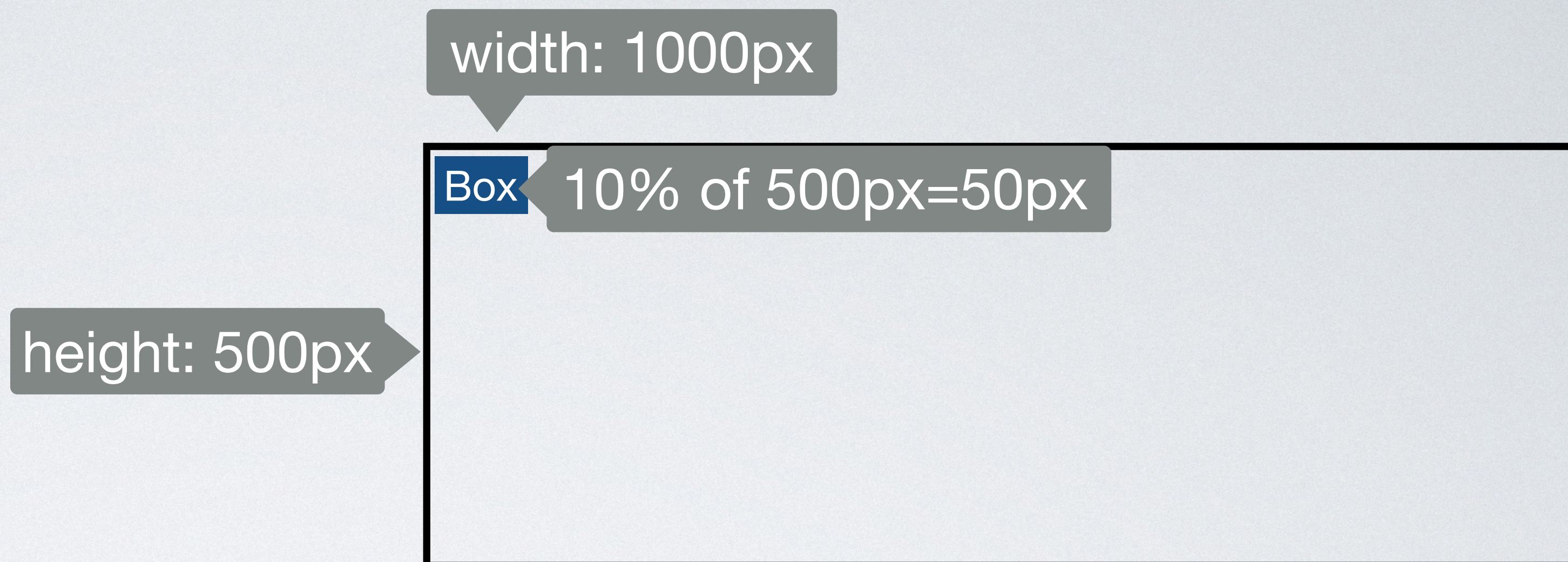
```
.box {  
  height: 100vh;  
}
```



RELATIVE UNITS / VMIN

```
.box {  
  font-size: 10vmin;  
}
```

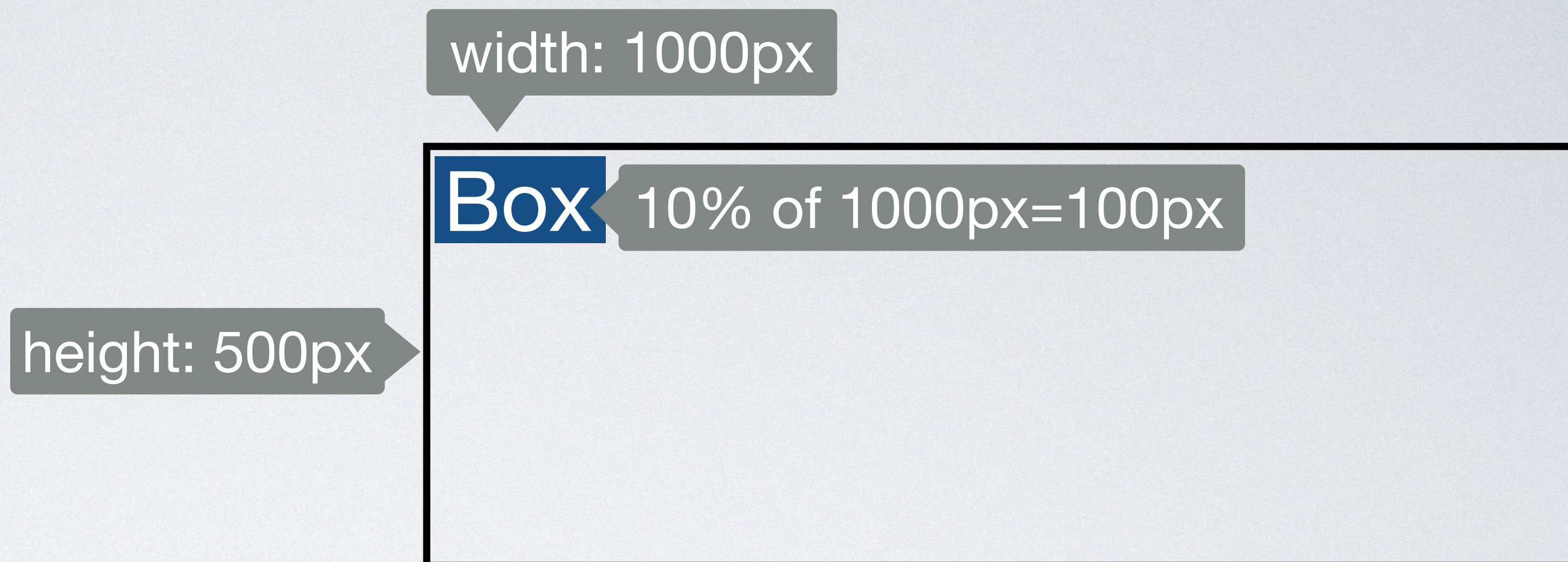
1vmin = 1vw or 1vh, whichever is smaller.



RELATIVE UNITS / VMAX

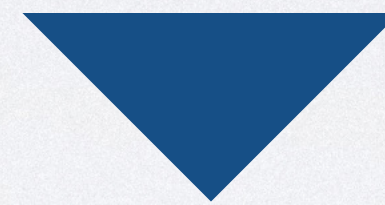
```
.box {  
  font-size: 10vmax;  
}
```

1vmax = 1vw or 1vh, whichever is larger.



HOW TO CHOOSE A CSS UNIT

Do I need to scale an element when the viewport size changes?



What do I want it to scale relative to?

**ABSOLUTE
UNITS**



**RELATIVE
UNITS**



TOOLS: TYPE SCALE

Base Size

16

px (1em)

Scale

1.200 — Minor Third

Google Font

Poppins

Weight

400

Preview Text

A Visual Type Scale

✖ Reset All

⌘ Save for Later

+

2.488em (39.81px)

A Visual Type Scale

2.074em (33.18px)

A Visual Type Scale

1.728em (27.65px)

A Visual Type Scale

1.44em (23.04px)

A Visual Type Scale

1.2em (19.20px)

A Visual Type Scale

1em (16.00px)

A Visual Type Scale

0.833em (13.33px)

A Visual Type Scale

0.694em (11.11px)

A Visual Type Scale

0.579em (9.26px)

A Visual Type Scale

+

▼ Grab the CSS

📦 Edit on CodePen

📱

🐦

🐙

A type tool by [Jeremy Church](#)

Body Font

Poppins

Line Height

1.45

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moving ac

perceived t

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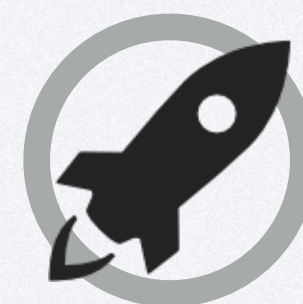
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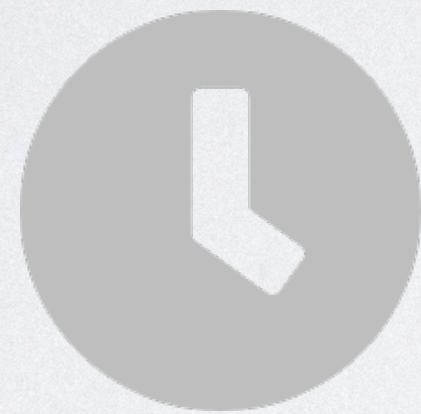
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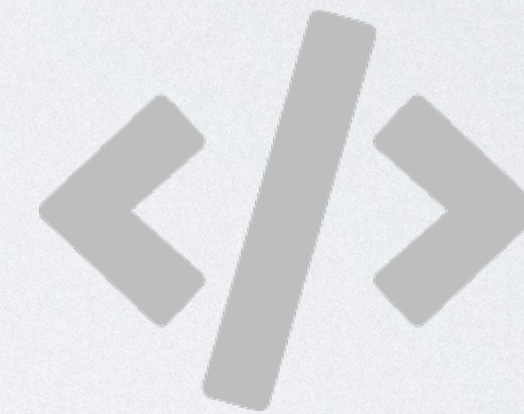
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CSS

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