JavaScript position and sizes

property Description	use with			considers			
	eventListener	window	element	padding	border	scrollBar	margin
.pageX / .pageY Position of mouse relative to whole page	✓						
.clientX / .client Y Position of mouse relative to viewable window	✓						
.style Only works if previously set with JS			✓				
.getBoundingClientRect() Returns the exact height, width…		✓	✓				
.innerHeight / .innerWidth Returns height and width of window only		✓				✓	
.clientHeight / .clientWidth Returns height and width of window and elements		✓	✓	✓			
.offsetHeight / .offsetWidth Returns height and width of window and elements		✓	✓	✓	✓	✓	
.offsetTop / .offsetLeft Returns position of elements			✓				

Contents

Mouse movement event listener

```
document.addEventListener("mousemove", mouseMove);

function mouseMove(e){
    console.log(e)
}
```

By default, an eventListener sends an argument (in this case we name it **e**) to the function you wish to call. Console logging this argument (e) we can see that we get an object with many properties from the “mousemove” eventListener:

Some of them are very useful for us, such as:

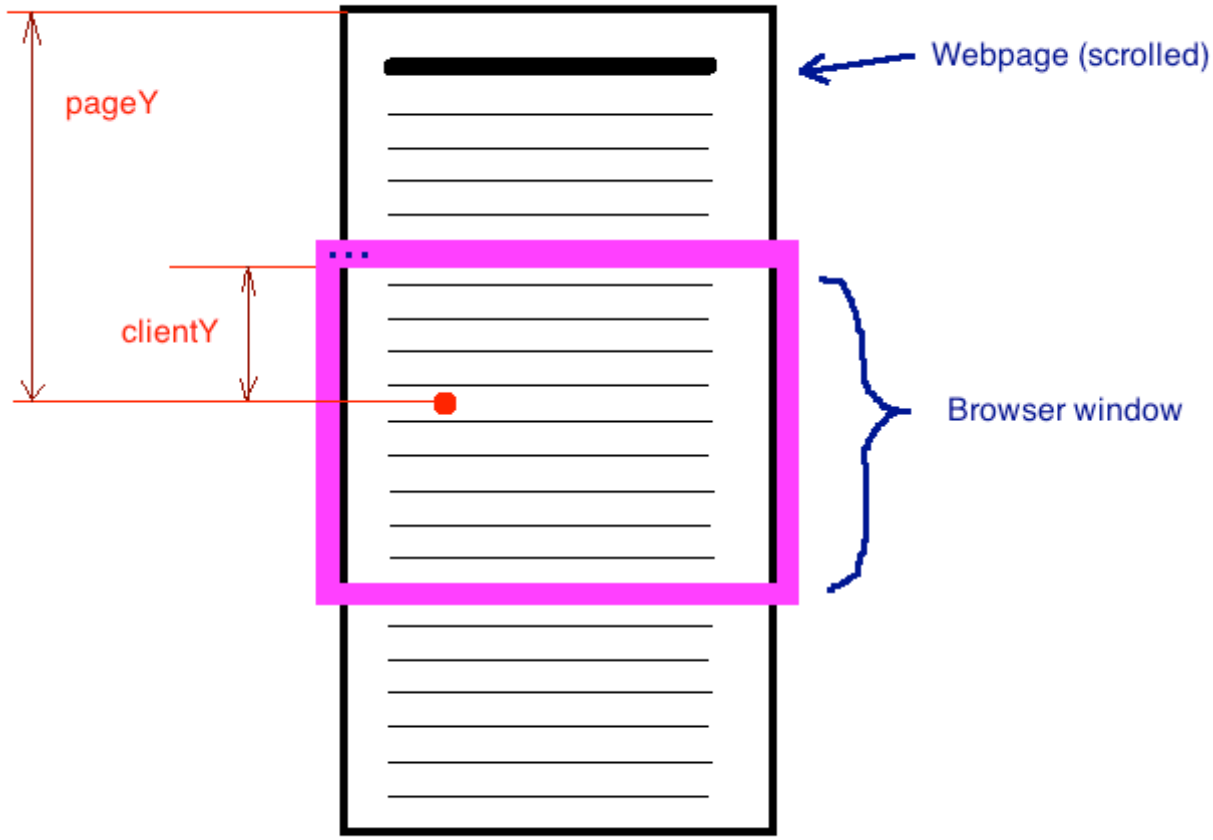
.pageX / .pageY

These two methods return the current position of the mouse relatively to the top and left of the webpage.

.clientX / .clientY

These two methods return the current position of the mouse relatively to the top and left of the screen, ignoring if the page has been scrolled to the bottom or not.

Comparison of .clientY and .pageY



Height and width of elements

Not depending on the (e) of an eventListener. **window** refers to the whole page where as **element** only refers to one object.

.style.height / .style.width (!warning)

Returns only the height or width of element without padding, border, scrollbar and margin. This only works if the height or width has been set before **in JavaScript**, not in CSS! (So not recommended at all)

In order to access it the height and width, we have to use *box.getBoundingClientRect()* instead of *.style*
E.g.

style.css

```css
div{
    height: 10px;
    width: 20px;
}
```

script.js

```js
const box = document.querySelector("div");
console.log(box.style.height); // returns nothing
console.log(box.getBoundingClientRect().height); //returns 10px
```

window.innerHeight / window.innerWidth

Returns the viewport height or width **of the window only** (not elements) in pixels. The value contains the height or width with the scrollbar.

.clientHeight / .clientWidth

Returns the height or width of the visible area of an element, in pixels. The value contains the height or width with the padding, but it does not include the scrollBar, border, and the margin. Both properties only return a value if the height or width has been set by CSS or JavaScript before. If this is not the case the returned value is zero. Use *getBoundingClientRect()* then as the alternative.

.offsetHeight / .offsetWidth

Returns the height or width of the visible area of an element, in pixels. The value contains the height or width with the padding, scrollBar, and the border, but does not include the margin.

.offsetLeft / .offsetTop

Returns the current positon relative to the top, left border.