Screen resolution is the number of horizontal and vertical pixels on the screen. More pixels, more information can be seen without scrolling.

https://screenresolutiontest.com

4K is not a standardized description of many physical pixels. This is an estimate of how many pixels are wide (as opposed to the previous convention of how many pixels are tall like 480p, 720p, 1080p, etc.). Something about 4000 pixels wide is called 4K. So there is a range from 3840 pixels to at least 5120 pixels for "ultra wide 4K" shows, broadcasts or videos.

The "number of pixels", or put another way "the number of points that light up", in an LCD screen is decided, and this "number of pixels" is the "native resolution." For example, this means that a monitor with a native resolution of "1920 × 1200" lights up, or turns off, 1920 horizontal rows (dots) and 1200 vertical rows (dots) of pixels to display images.
Then what happens if an image is displayed in a different resolution from the "native resolution," and in particular what happens if that resolution has a different aspect ratio to the "native resolution"? Let's consider a case where a "1280 × 1024" (horizontal : vertical = 5:4) image is displayed on an LCD monitor with a native resolution of "1920 × 1200" (horizontal : vertical = 16:10).

The conclusion must be that beyond a certain point a physically smaller display will require physically fewer pixels to remain usable in HiDPI (assuming the same viewing distance). Fitting "4K" pixels into such a small space is worse than simply using fewer pixels, even if you're not using the marketing-friendly 4K label.

If we look at the trends in the PC LCD monitor market, the second half of the 21st century saw a simultaneous shift from square to wide-screen displays, and the current trend is towards larger screens and higher resolutions.

The best-selling LCD monitor is the 23-inch model with a resolution of 1920 x 1080 pixels (HD), but 4K screens, which offer four times the resolution, are developing and a new trend. resolution (increasing pixel density) without increasing screen size

Full definition 4K is expected to replace HD as the mainstream resolution in the coming years. 4K of course means 4,000 and refers to a horizontal pixel count of approx. There are currently two standards for 4K resolution, namely "DCI 4K" and "UHD 4K".