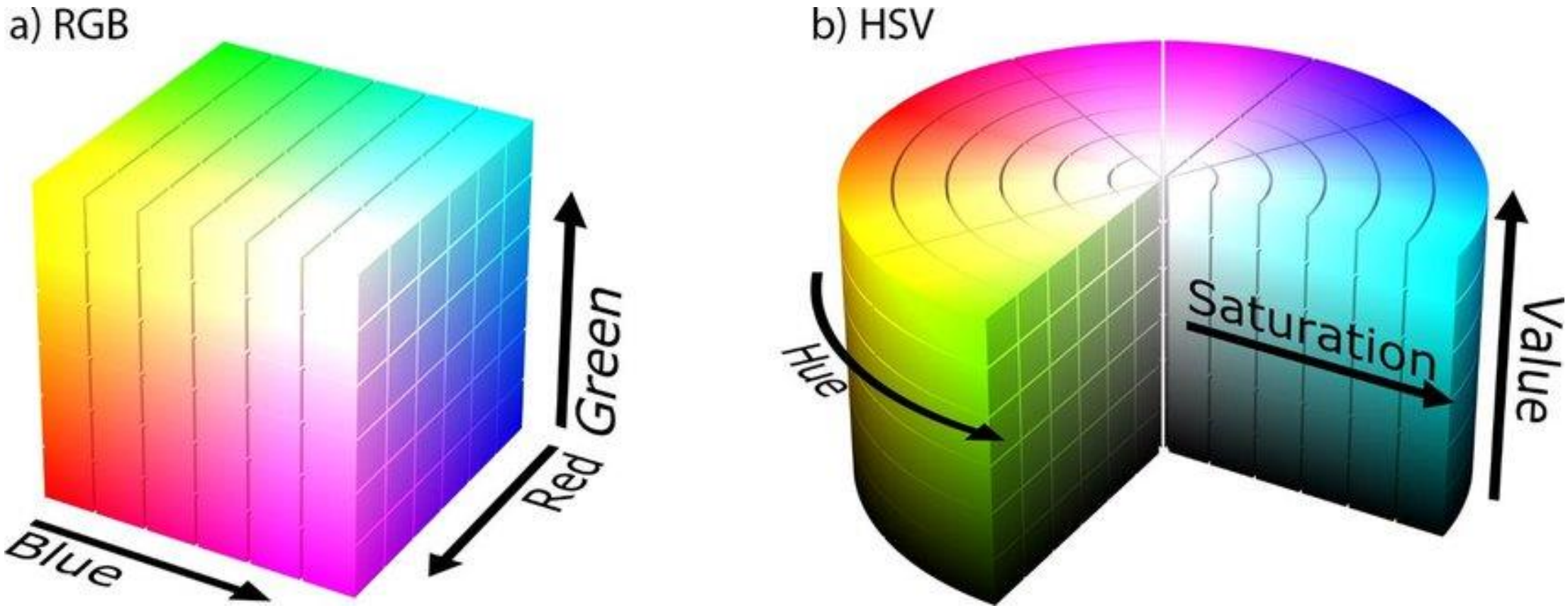
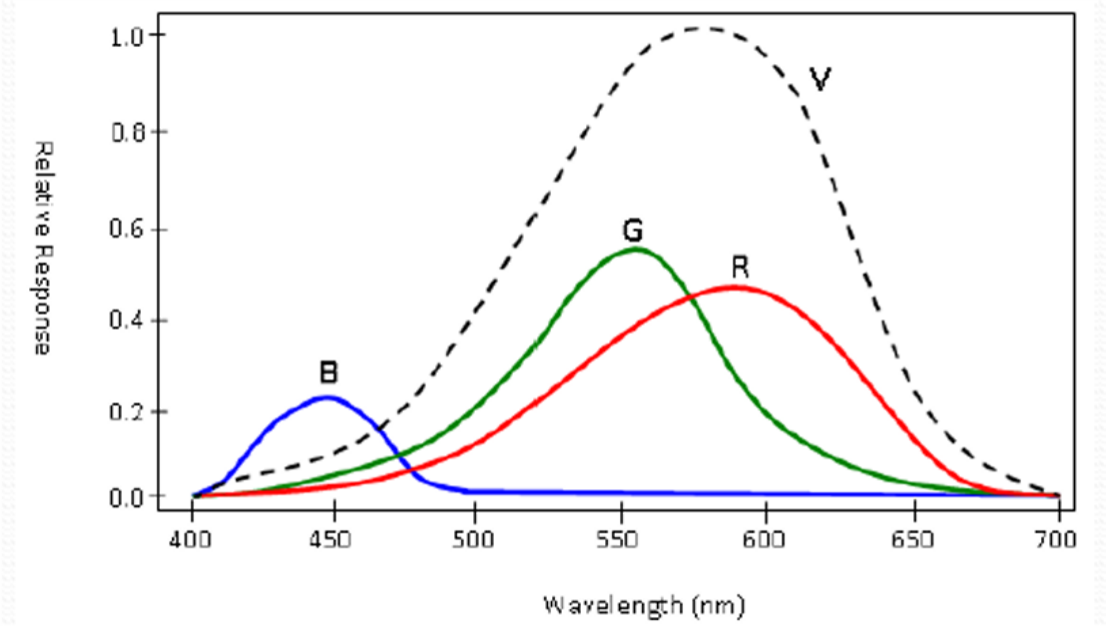
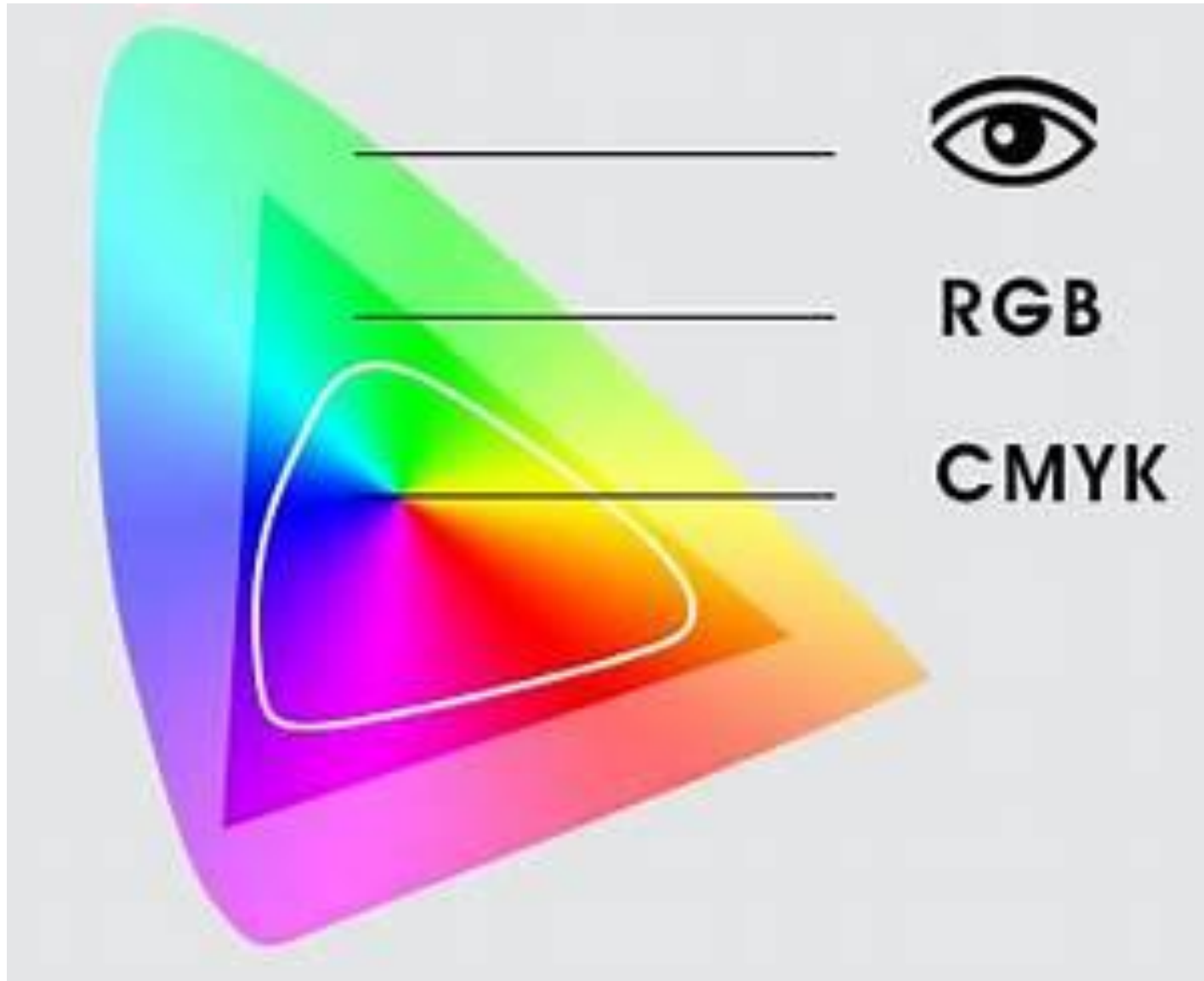
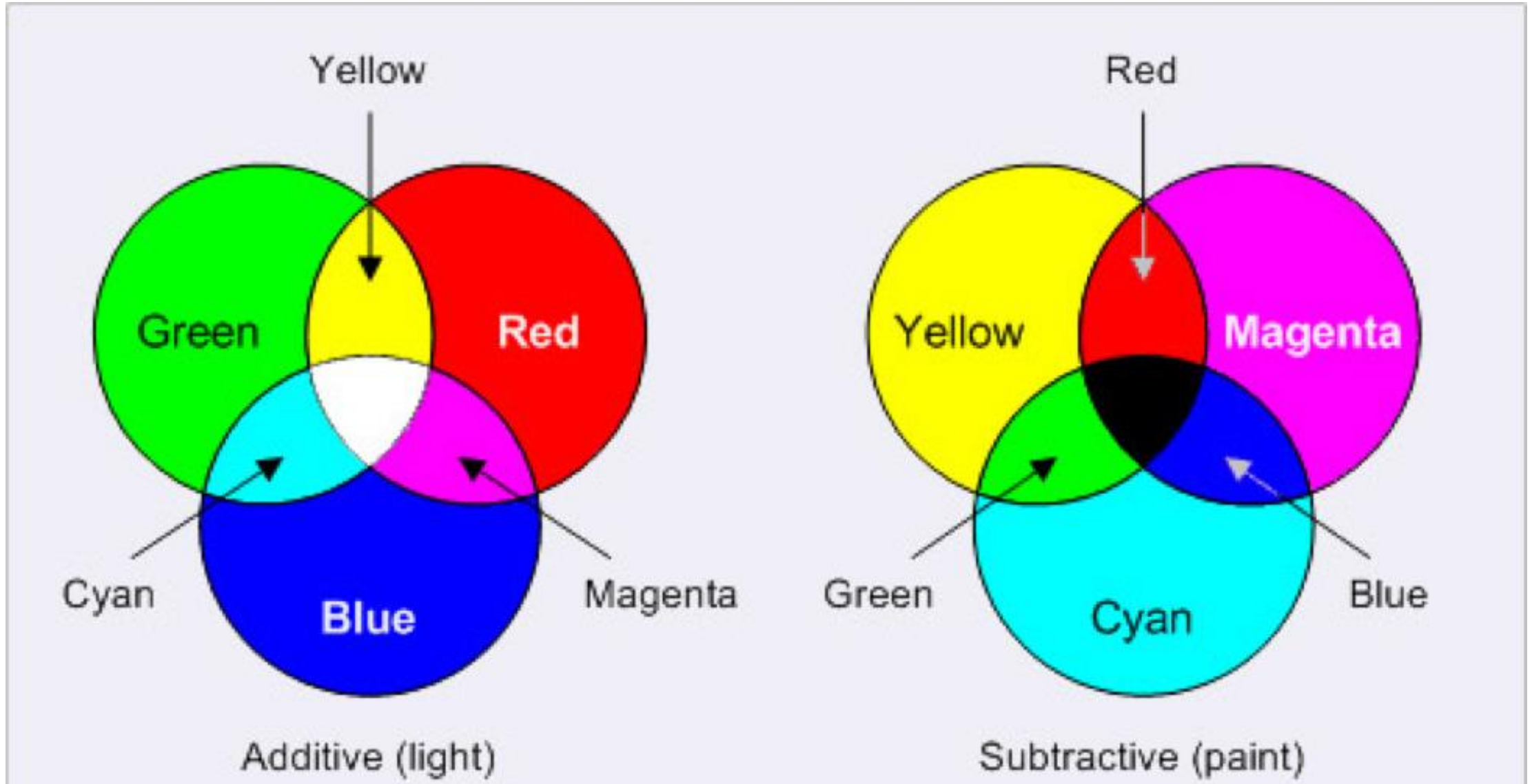

a) RGB
Blue
Red
Green
b) HSV
Hue
Saturation
Value

Grayscale pixel = 0.299 · Red + 0.587 · Green + 0.114 · Blue

- چشم انسان بیشترین حساسیت را به نور در میانه نمودار طیف بینایی دارد




RGB
CMYK



Additive and subtractive color combinations

To calculate the size of a bitmap image:

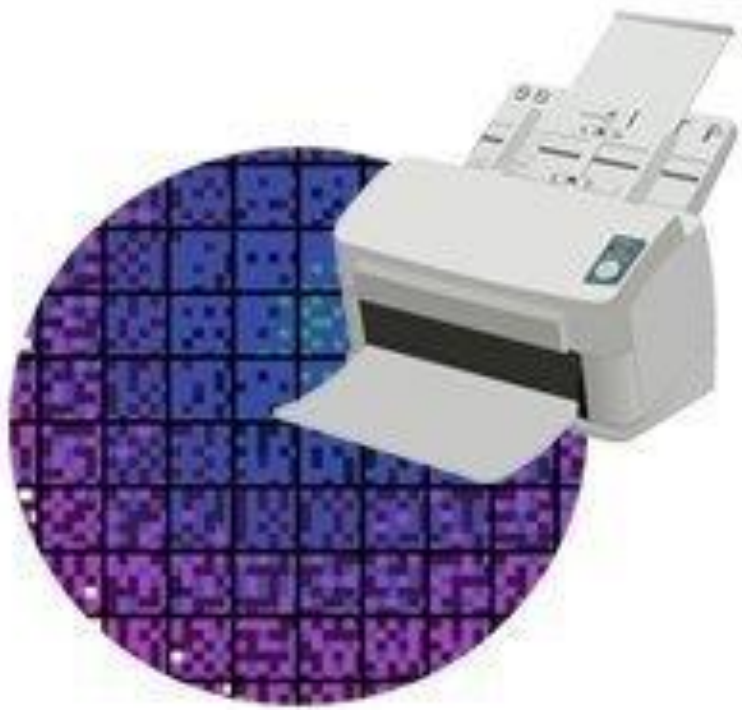
Y (2000)

X (3000)

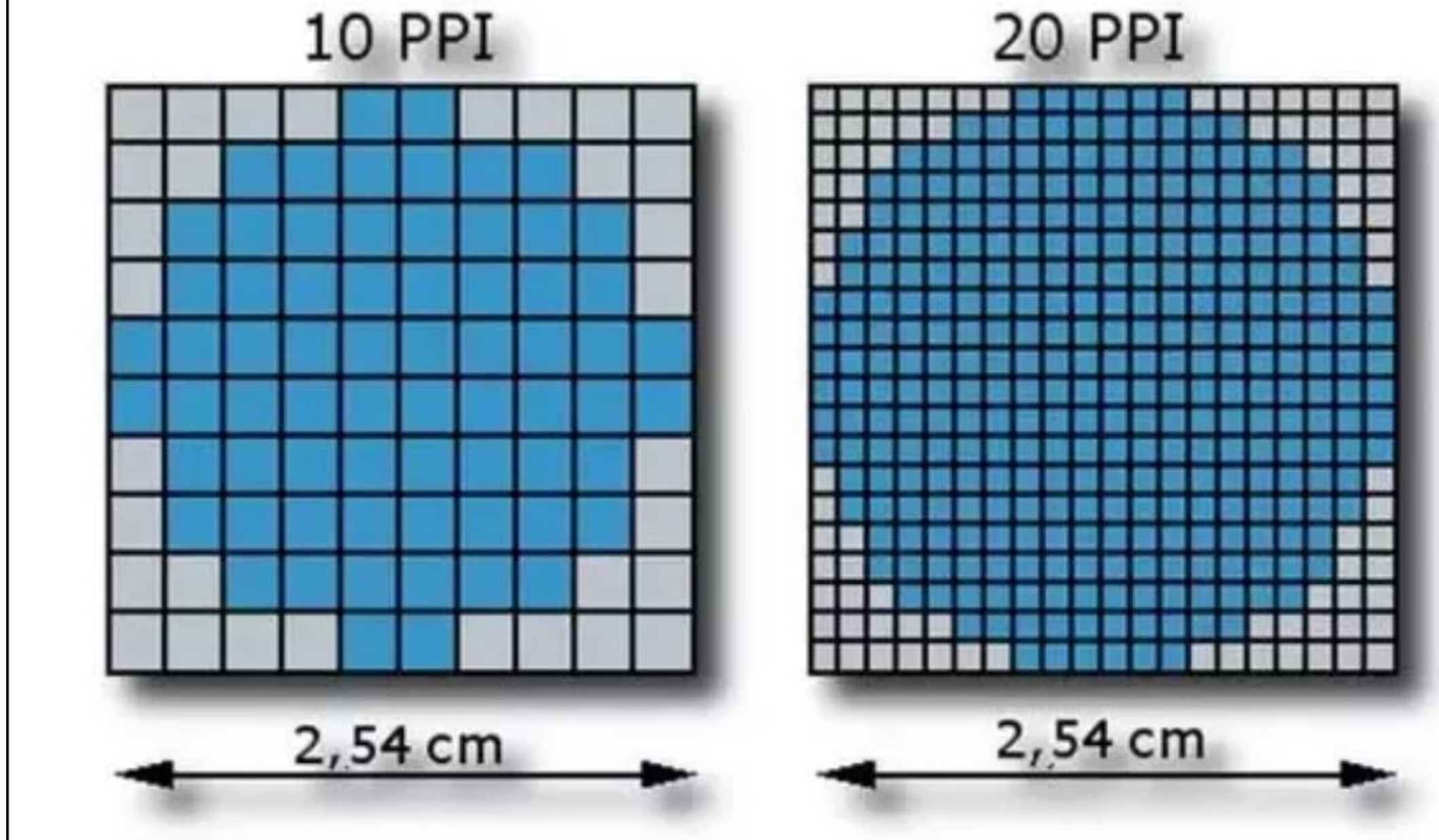
X pixels * Y pixels * bit depth / 8

(3000 X 2000 X 16 / 8 = 12,000,000 bytes or 12 Mb)

DPI



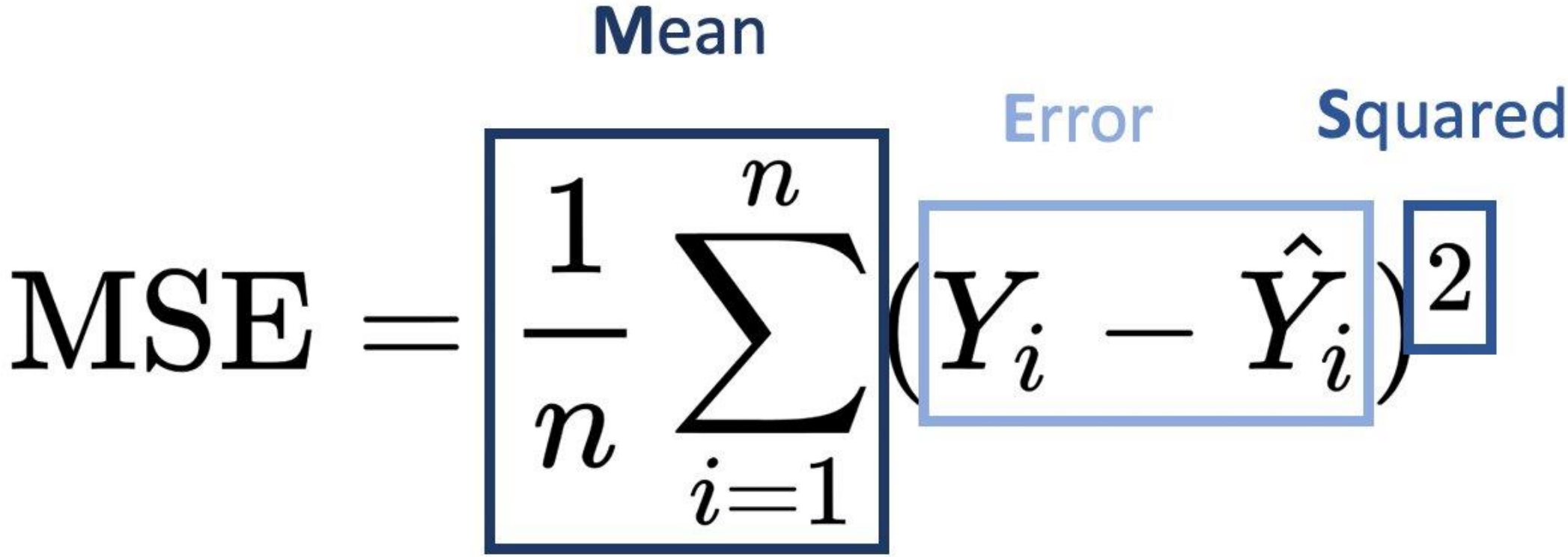
PPI


10 PPI
20 PPI
2,54 cm
2,54 cm

HOW TO CHOOSE BETWEEN LOSSY VS LOSSLESS COMPRESSION

	Lossless Compression	Lossy Compression
When to use it	When data loss is unacceptable or could cause an issue (e.g: financial data or high-quality images for a photographer)	When data loss is acceptable When you need to display the file on mobile devices and websites. When you have limited space available on your computer.
Image reconstruction	Yes - Also known as reversible compression	No - Also known as irreversible compression. *(But if you pick the right tool, you can reverse the compression)**
Impact on the quality	No	Yes (but invisible to the human eye most of the time)
Data reduction	Lower	Higher

**Imagify always allows you to rollback to the original version even in lossy compression


Mean
Error
Squared
$\mathrm{MSE} = \frac{1}{n}\sum_{i=1}^{n}(Y_i - \hat{Y}_i)^2$