

Print Resolution

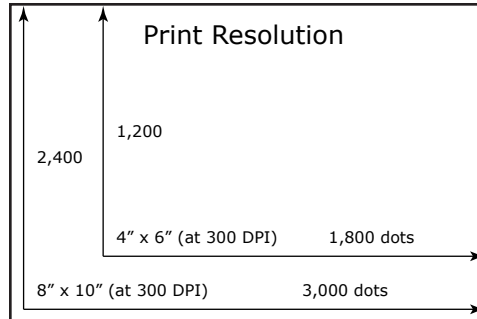
notes

Print resolution is commonly measured in dots per inch (DPI). The human eye can see detail in a printed image up to only about 300 DPI, which is the resolution used by most inkjet and laser printers.

By comparison, newspaper photos are typically printed at 150-200 DPI. Commercial printers use images at 300-450 DPI.

The number of dots in a print is determined by *both* the dimensions of the print *and* the DPI.

For example, a 4" by 6" print at 300 DPI is 1,200 dots high by 1,800 dots wide (the height and width in inches times the DPI).



Similarly, the number of pixels needed in an image to be printed is determined by *both* the dimensions of the print *and* the desired DPI. An image for an 8" x 10" print at 300 DPI, therefore, needs to be 2,400 pixels high by 3,000 pixels wide. This resolution is about 7 megapixels in total.

Common sizes of prints for most artwork require a resolution of 250-300 DPI, although acceptable prints can be made with a resolution as low as 150 DPI.

Drawings and artwork with fine detail require a higher resolution, while artwork with large areas of color and less detail can have a lower resolution. Larger sized prints also require less resolution because they are usually viewed from farther away.

Most printer software will fill in the missing pixels if the image has less resolution than needed for the size of print being made. This is only an approximation, however, because the printer software is guessing about the missing pixels. Prints will have higher quality if the image has enough resolution. Similarly, the printer software will remove extra pixels if the image is too large for the size of print.