

Techie, Trickery & Trivia (say it three times—fast!)
Test Yourself On: Studio Techniques, Ch. 4—Resolution Solutions

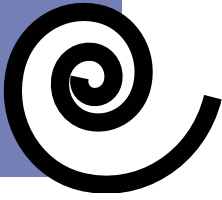


Following are 25 questions that pertain to resolution, scanning, printing and most importantly understanding Image Size—It DOES matter! About 90% of these questions follow the technique and theory described in Chapter 4 of *Ben Willmore's Photoshop 6.0 Studio Techniques* book. Since we use Ben's book in our Introductory Photoshop classes, at Nashville State Technical College, along with our own *Photoshop Modules Workbook* by *Pam Hawkins and Shan Canfield*, I thought creating a companion test would benefit not only our students but anyone out there who is fortunate enough to own Ben's book. This PDF does not include the answer key. I will be happy to send that per an email request but before I send the key, you will have to answer a "secret" question that will prove you have Ben's book. Educators are welcome to this test and future ones I will be creating, if *Studio Techniques* is being used as a text in your curriculum. While I am offering to share these tests for free, I am only doing so because I'm a test lover, and I'm nuts—about Adobe Photoshop and Ben's book. I think anyone serious about learning digital imaging should BUY both the program and *Studio Techniques*! Visit Ben's website at www.digitalmastery.com.

I've been an Adobe Certified Expert and teaching Photoshop since 1999. If I had to choose one general Photoshop book to have on a tropical deserted island; just me, my laptop and Photoshop—*Ben Willmore's Studio Techniques* would be it! Of course I would have to sneak in *Katrin Eismann's, Photoshop Restoration and Retouching* book, the *Photoshop 6 Shop Manual* by *Donnie O'Quinn*, and who could live without at least one of *Scott Kelby's Photoshop Down & Dirty* books? This is my fare for a well-balanced diet and fine dining experience, in Photoshop, provided I still receive all issues of *Photoshop User* magazine and the Red Cross air-drops a copy of *Jack Davis & Linnea Dayton's Wow* book along with 120 Gigabyte external hard drive and some SPF 40 sunblock!

Bon Appetite—you test lovers! Allow an hour for this intense 25 question test!

Test creation by Shan Canfield
email: shan@shanzcan.com



Questions based on Ben Willmore's Photoshop 6.0 Studio Techniques

Read the questions and answers very carefully, before you choose ONLY ONE "letter" choice!

- 1** Samples per inch (spi) is the correct term describing resolution for a(n)
 - a** printer.
 - b** image file.
 - c** scanner.
 - d** digital camera.

- 2** Dots per inch (dpi) is the correct term describing resolution for a laser printer or inkjet printer.
 - a** True
 - b** False

- 3** Pixels per inch (ppi) is the correct term describing resolution for a(n)
 - a** monitor.
 - b** image file.
 - c** a scanner.
 - d** both a and b.

- 4** Lines per inch (lpi) is the correct term describing
 - a** the spacing of halftone dots.
 - b** monitor resolution.
 - c** the output basis of laser printers, imagesetters, printing presses and thermal wax printers.
 - d** both a and c.

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5 If you scan a 3" x 5" image at 72 spi @ 100%, what will the width and height be in pixels?

(show work)

ans. _____

6 If your scanning resolution is 200 spi for a 3" x 5" @ 100%, how many pixels wide and how many pixels high will it be?

(show work)

ans. _____

7 Most new scanners (less that 2 years old) have built in scale settings which takes the burden off artists having to use a four letter word like "math" to calculate the correct setting.

- a** True
- b** False

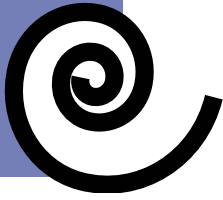
8 The lower the resolution (pixels per/ inch)—the smaller the pixel!

- a** True
- b** False

9 Although manufacturers of scanners , in the current market, list the resolution settings as dpi (dots per inch), their use of this term for scanning is absolutely

- a** incorrect.
- b** insane.
- c** confusing.
- d** all of the above.

Continued

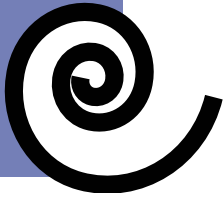


- 10** If you are outputting to an inkjet printer @720 dpi, you could get an optimum quality print if your image file resolution is between
- a** 720 ppi and 1440 ppi.
 - b** 100 ppi and 240 ppi.
 - c** 72 ppi and 100 ppi.
 - d** Image file resolution doesn't matter so long as the best quality is set by choosing a high dpi setting in the Printer's software.
- 11** If you are outputting a CMYK image to an off-set press whose line screen is 150 lpi, you could get an optimum quality print if your image file resolution is between
- a** 100 ppi and 150 ppi.
 - b** 225 ppi and 300 ppi.
 - c** 72 ppi and 100 ppi.
 - d** 300 ppi and 1200 ppi.
- 12** If you scan an image on a scanner whose optical resolution is 600 spi, and your final output is to an off-set press whose screen frequency is 85 lpi, you should scan the image at an spi setting of _____ for obtaining optimal scanning resolution and optimum resolution for the press.
- a** 128
 - b** 600
 - c** 300
 - d** 150



- 13** Megapixels is the correct term used to describe
- a** the maximum file resolution (pixel width x pixels height ÷ 1 million) produced by digital cameras.
 - b** image files containing more that one million pixels.
 - c** large pixels.
 - d** all of the above.
- 14** As a rule the spi or ppi of a file at 100% scale should never match your printer's maximum dpi resolution. An exception to this is
- a** when the image is line art (pure black and white)
 - b** when your output device is a dye sub printer.
 - c** when you're output device is a film recorder (35mm slide).
 - d** all of the above.
- 15** An off-set printing press converts your original into a piece of metal (printing plate). This plate is put on a big round roller on the press and flooded with water ind ink. The ink sticks to the plate only where images and text should be. The water makes sure it doesn't stick to other areas. Then the plate rolls a copy onto another roller (the blanket) which in turn transfers the ink onto a sheet of paper.
- a** True
 - b** False

Continued



- 16** Most popular printers such as — lasers, imagesetters, off-set press, and thermal wax cannot reproduce true shades of gray.
- a** True
 - b** False
- 17** Inkjet printers do not use halftones.
- a** True
 - b** False



You just scanned a 5" x 5" photo @ 300 spi (100% scale). You open the file in Photoshop, go to Image Size and UNCHECK the "Resample" box. Answer the following questions pertaining to this scenario. (*Questions 18–22*)

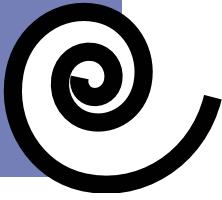
- 18** When you open Photoshop's Image Size dialog box, the pixel width and pixel height numbers are
- a** 300 x 300 .
 - b** 1500 x 1500.
 - c** 5 x 5.
 - d** 500 x 500.
- 19** You change the resolution setting from 300 ppi to 150 ppi. This will
- a** make the pixels larger.
 - b** change the document print size to 10" x 10".
 - c** decrease the file size (K or MB) and the original total amount of pixels.
 - d** both a and b



- 20** You change the resolution setting from 300 ppi to 150 ppi. This will
- a** make the pixels smaller.
 - b** change the document print size to 2.5" x 2.5".
 - c** not change the file size (K or MB) or the original total amount of pixels.
 - d** both a and b
- 21** After changing the Document Width from 5" to 2.5", which of the following will NOT occur in the Image Size dialog box?
- a** The Document Height automatically changes to 2.5".
 - b** The Resolution field changes from 300 pixels/inch to 600 pixels/inch.
 - c** The original Pixel dimensions (total amount of pixels) stay the same.
 - d** The original Pixel dimensions (total amount of pixels) are half the original amount.
- 22** You email your grandma, attaching the original scan to your letter. The file shows up in her mail browser window approximately
- a** 5" x 5".
 - b** 2.5" x 2.5".
 - c** 20" x 20".
 - d** 10" x 10".



Continued



- 23** If you do not know the final output size or what the final output device will be—you should try and think of the largest possible size (inches) you'd ever need and scan at 300 spi, to accommodate for possible use in a high-end off-set printing device.
- a** True
 - b** False
- 24** The most important thing to know before scanning an image is
- a** to know the resolution requirements for the final output device.
 - b** to always scan at 100% scale, @ 300 spi.
 - c** what the final size (inches) of the image is to be.
 - d** both a and c
- 25** When you check the "Resample" box in Photoshop's Image Size dialog box and change either the pixel dimensions, the document size (inches), or the resolution field, you are asking Photoshop to either throw away some of the original pixels or make up new pixels to add to the original amount.
- a** True
 - b** False

Extra Credit: *4 points*

The formula for calculating the acceptable range of optimum file resolution or scanning resolution when given the line screen of a printer is

ans. _____