

The following quiz covers information that has appeared in the Linotype-Hell technical information notebook in the past year. You may want to take this test to see how much of this information you have absorbed, or, if you are new to the series, you can use this quiz to test your current knowledge. The correct answers are listed at the end of the document along with a reference to the article that the question was drawn from. The questions are sorted in three categories: Terminology, Concepts, and Problem Solving. The entire test should take you no longer than 15 or 20 minutes.

Terminology

Find the correct term or terms that best describes the following statements:

1. Line art that is created in an illustration program like Adobe Illustrator** is called:
_____, _____, and _____.
2. Scanned line art may be described as:
_____ and _____.
3. Outline fonts may also be called by the following names:
_____, _____, and _____.
4. The solid black area on a piece of photographic film or paper is called:
_____.
5. Digital halftone dots are made up of one or more:
_____.
6. The acronym RIP stands for:
(Note: The answer is not in the list.)
_____.
7. The additive primary colors are:
_____.
8. The subtractive primary colors are:
_____.
9. A color that is printed directly on top of another is called:
_____.
10. Color spaces like CIEXYZ, CIELAB, CIELUV and CIELCH are:
_____.

Note: This technology quiz is also available in an interactive version that will run on a Macintosh** computer. The electronic technology quiz may be obtained at no charge from your Linotype-Hell sales representative.

Potential answers

- bitmapped
- bitmapped font
- black
- blue
- cyan
- device dependent
- device independent
- dmax
- dmin
- draw
- green
- halftone cells
- halftone dots
- knockout
- laser spots
- magenta
- negative
- object-oriented
- orange
- overprint
- paint
- positive
- printer font
- purple
- red
- resolution dependent
- resolution independent
- scalable font
- screen font
- screen rulings
- screen angles
- vector font
- white
- yellow

Concepts

Answer the following questions:

1. The developer bath is the first bath in a film processor. Name three important factors in the development of a piece of film.

2. Name two imagesetter factors that affect film d_{max} ?

3. Name at least one way to tell the emulsion side of a piece of film from the base side.

4. What is the proper resolution to scan a grayscale scan that will be reproduced at the same size?

- a. Equal to the output device resolution
- b. As high as possible
- c. Twice the screen ruling
- d. Half the screen ruling
- e. Equal to the screen ruling
- f. Depends on the quality requirement

5. For a line art scan that will be reproduced at the same size, what is the proper resolution to scan at?

- a. Equal to the output device resolution
- b. As high as possible
- c. Twice the screen ruling
- d. Half the screen ruling
- e. Equal to the screen ruling
- f. Depends on the quality requirement

6. Doubling the spatial resolution of a scan, while tonal resolution remains constant, _____.

- a. Doubles the file size
- b. Triples the file size
- c. Quadruples the file size
- d. Must know what the tonal resolution is to be able to answer

7. Calibration will improve problems with:

- a. Inaccurate dot percent
- b. Moiré
- c. Screen ruling and angle
- d. All of the above

8. Name at least three factors that play a role in the smoothness of a blend.

9. Enlarging an existing scan effectively has the following effect on its spatial resolution:

- a. It reduces the spatial resolution
- b. It increases the spatial resolution
- c. It has no effect at all

10. Yellow is created by mixing the following two colors of light:

Problem solving

Answer the following questions:

1. What is the most logical explanation for the following PostScript error:
%%[PostScript Error: rangecheck Offending command: setpageparam]%%

2. You notice a light moiré pattern in a pink tint area that is supposed to be without detail. Name a possible reason:

Extra credit

Who is responsible for verifying that the traps in an electronic file have been properly executed correctly on film output? The artist, the designer, the service bureau, the printer?

(All quiz answers are on the next page.)

Comments

Please direct any questions or comments to:

Jim Hamilton, Marketing Department
Linotype-Hell Company
425 Oser Avenue
Hauppauge, NY 11788

Acknowledgements

Many thanks to Prof. Robert Chung of Rochester Institute of Technology, and Michael Yoka of Linotype-Hell for their help in producing this document.

Answers

Scoring:

Counting one point for each correct question, 23 points (including the extra credit question) is a perfect score.

References:

The following articles are referenced in this quiz:

- Acronyms
- Analyzing Film Output
- Blends and Shadestepping
- Blend Update
- Calibration
- Color in Printing
- Color Spaces and PostScript Level 2
- Density and Dot Percent
- Digital Halftone Dots
- Line Art
- Maintaining a Film Processor
- PostScript Font Basics
- Moiré
- Scanned File Size
- Trapping
- Troubleshooting PostScript Errors

The articles in the Linotype-Hell technical information pieces cover a wide range of topics including, scanning, fonts, color, and PostScript. These documents are circulated to Linotype-Hell service contract customers in the U.S. and Canada, and are also available on a subscription basis.

The 1992 notebook, which is a collection of fifty articles, is available for \$99. The 1993 notebook, which will include all articles to be written in 1993, is available for a subscription price of \$99. These items may be ordered by calling 1-800-842-9721.

Terminology

1. Device independent, draw, and object oriented. See *Scanned File Size*.
2. Bitmapped and paint. See *Scanned File Size*.
3. Scalable font, printer font, and vector font. See *PostScript Font Basics*.
4. Dmax See *Analyzing Film Output*.
5. Laser spots. See *Digital Halftone Dots*.
6. Raster Image Processor. See *Acronyms*.
7. Red, green, and blue. See *Color in Printing*.
8. Cyan, magenta, and yellow. See *Color in Printing*.
9. An overprint. See *Trapping*.
10. Device independent. See *Color Spaces and PostScript Level 2*.

Concepts

1. Agitation of developer chemicals, time spent in developer, and developer temperature. See *Maintaining a Film Processor*.
2. Laser intensity setting (also known as density or exposure setting), and resolution setting (also known as addressability setting). See *Density and Dot Percent*.
3. The emulsion side looks duller, you can scratch emulsion from the emulsion side, and, if the film is rolled emulsion-side-in, then the film will curl slightly towards the emulsion. See *Analyzing Film Output*.
4. f. Depends on the quality requirement. (While there is no benefit to scanning a grayscale scan at higher than twice the screen ruling, the scanning ratio that you choose ultimately depends on your own quality requirements.) See *Scanned File Size*.
5. f. Depends on the quality requirement. (While you might like to match the output device resolution, the file size, the available scanner resolution, and, most importantly your own quality requirements will determine the resolution at which you scan.) See *Line Art*.
6. c. Quadruples the file size. See *Scanned File Size*.
7. a. Inaccurate dot percent. See *Calibration*.
8. The three most important factors are the length of the blend, the screen ruling and the addressability/resolution of the output device. Also important are the number of steps in the blend, the grays achievable by the page description language, and the method of creation of the blend. See *Blends and Shadestepping* and *Blend Update*.
9. a. It reduces the spatial resolution. See *Scanned File Size*.
10. Red and green. See *Color in Printing*.

Problem solving

1. The page is too large for the output device to which it is being sent. See *Troubleshooting PostScript Errors*.
2. This moiré is probably caused by a magenta/yellow conflict. This is often solved by swapping the screen angles for black and magenta. See *Moiré*.

Extra credit

The designer has inherited many production tasks, so he or she is the most likely choice, but the artist, service bureau, and printer also share responsibility. Unfortunately, this question is often left unanswered, and trapping is overlooked entirely. Give yourself a point if you stressed communication.