**NP2016 Solutions**

**Pre-Check**

(Answers from top left to bottom right)

1a. 110

1b. 00110110

2. sampling

3. lossless

4. JPG, RAW, TIF, GIF, PNG, BMP

5. phoneme

6. violet

7. vector

8. MPEG, VP8, DivX, H.264, Theora, WMV

9. rendering

**QuickChecks** (listed by page number)

17. D

18. C

19a. C

19b. B

20. 01001000, 01101001, 00100001

21a. B

21b. C

23. A

24a. GB, MB, KB

24b. A

25. B

28. B

29. 44.1

30. A

31. C

32. A

33. D

34. A

37. B

40. A

42a. C

42b. B

44. A

48a. D

48b. B

50. B

51. C

52. A

53. B

56. A

57. B

59. D

60. C

61. A

62. B

**QuickQuizzes**

**Section A**

1. representation

2. binary or base 2

3. ASCII

4. Kilobyte

5. lossless

**Section B**

1. Sampling

2. lossy

3. extraction

4. MIDI

5.concatenative

**Section C**

1. CCD

2. dependent

3. 24

4. PNG

5. histogram

**Section D**

1. True

2. rasterization, rendering

3. SVG

4. wireframe

5. tracing

**Section E**

1. capture

2. codec

3. progressive

4. container

5. transcoding

**Issue Try Its**

1. (From http://www.copyright.gov/fls/fl102.html): a. The purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes. b. The nature of the copyrighted work. c.The amount and substantiality of the portion used in relation to the copyrighted work as a whole. d. The effect of the use upon the potential market for, or value of, the copyrighted work.

2. (From http://www.ncte.org/cccc/committees/ip/2006developments/remix): The Second Circuit found that with respect to the first factor, purpose and character of the use, the use of the Grateful Dead images was transformative since the images were used in a timeline and for historical purposes rather than for the posters’ original purposes of concert promotion. On the second factor regarding the nature of the copyrighted work, the court acknowledged this factor weighed against fair use because the posters were creative. Yet, the court limited the weight of this factor because the biographical book did not exploit the creative aspects of the posters. On the third factor, amount and substantiality of portion used, the court said that even though entire images were used, their reduced size was consistent with Dorling Kindersley’s transformative use. And finally, on the fourth factor, the court stated that Dorling’s use didn’t harm the potential market because no actual market harm was sustained, and, in this case, the court wouldn’t find market harm based on “hypothetical loss” of revenue.

3. Student should give an example of transformative use from Youtube and a list of the original works that were used. The student should also state their opinion on what makes the work transformative. Answers will vary.

4. a. Yes b. No c. No d. No

5. a. No b. No

**Information Tools Try Its**

1. Students' responses will vary but should include mention of 5 misleading photos and an explanation why they chose those photos.

2. Student responses will vary but should include something like the following: a. Remove tree stems b. Clean up imperfections in the background c. Remove the lens glare d. Remove tree in upper left e. Cropped the image

3. Student should provide a screenshot of the results from TinEye of an image that they uploaded.

4. Students should provide answers to the following: a. date photo was taken. b. Date the photo was modified. c. The camera brand and model that was used to take the photo. D. Who the photographer was. E. Where the photo was taken.

5. Students should provide information about whether or not the analysis done by fotoforensics.com of a modified screenshot caught the student's modification.

6. Students should mention that the conclusion was that the shadow "...is consistent

with the 3-D geometry of the scene and position of the sun." and that the film was in fact, real.

**Interactive Summary**

**Section A**

1. digital or binary

2. bit

3. byte

4. information

5. pulses of current

6. magnetic or magnetized

7. Numeric

8. binary

9. Character or text

10. ASCII

11. kilobyte

12. mega

13. gibi

14. lossless

15. lossy

16. .zip or .rar

17. decompressed, uncompressed

**Section B**

1. digital

2. samples

3. KHz or kilohertz

4. ACC

5. live

6. synthesized

7. messages

8. synthesis

9. recognition

**Section C**

1. pixels

2. binary

3. RGB

4. hexadecimal

5. depth

6. resolution

7. dependent

8. pixelated

9. Lossy

10. lossless

11. histogram

12. cloning

13. compositing

**Section D**

1. vectors, shapes or objects

2. pixelated

3. drawing

4. rasterization or rasterizing

5. SVG

6. wireframe

7. rendering

8. Ray

**Section E**

1. analog

2. webcams

3. progressive

4. 16:9

5. interframe

6. codec

7. ratio

8. container

**Interactive Situation Questions**

1. OCR or optical character recognition

2. MP3

3. MIDI

4. synthesis

5. scanner

6. JPG

7. compress

8. vector

9. codec

10. resolution

**Labs**

2. Students should respond if their device responds to the following: a. What time is it? b. Can you launch the camera app and take a photo using voice commands? c. Can the student use a voice command to get to the desktop, start screen, and home screen. d. Can the student dictate an e-mail message or text message using only voice commands?

4. The student should respond by describing their experience while closing their eyes while browsing or some other simple activity.

5. Students should respond with information about their experience when locating Web resources that help improve navigating while having their eyes shut.