RGB to HEX Conversion Worksheet: KEY

Convert the following Hex values to RGB Decimal Values:

1. AC0BFF *172,11,255*
2. 11AACB *17, 170, 203*
3. FFCC00 *255,204,0*
4. 660099 *102,0,153*
5. FFFFFF *255,255,255* (What color is this?) *White*
6. 000000 *0,0,0* (What color is this?) *Black*
7. BCABFF *188,171,255*
8. 99FFA1 *153, 255, 161*
9. AFBCA5 *175,188,165*
10. 667AFB *102,122,251*

Convert the following Decimal RGB values to Hex values

1. (255,100,87) *FF6457*
2. (109,0,124) *6D007C*
3. (86,10,91) *560A5B*
4. (255,255,255) *FFFFFF* (What color is this?) *White*
5. (0,0,0) *000000* (What color is this?) *Black*
6. (102,101,77) *66654D*
7. (10,18,122) *0A127A*
8. (134,29,37) *861D25*
9. (57,123,48) *397B30*
10. (255,18,73) *FF1249*

Go to the following website and read the section on making colors with light.
http://mvh.sr.unh.edu/mvhinvestigations/color_investigations.htm

Give a brief description of what you read:

Mixing colors with light is very different from mixing colors with pigment. Computers create color using light, so it is important to understand how mixing colors with light works, unlike mixing color with pigment like paint, like I am used to doing. An example of the differences are that in pigment the primary colors are yellow, cyan, and magenta, but in light the primary colors are red, green, and blue. This website showed us how to start learning what colors we can make with different combinations of these primary colors of light.

Find the pixel value for the center pixel by averaging the pixels around it. Put your answer convert your answer to hexadecimal format.

86,10,91	102,101,77	255,18,73
57,123,48		109,0,124
255,100,87	86,10,91	255,255,255

Average in RGB ***151, 77, 106***

Average in hexadecimal ***974D6A***

In your own words, describe the meaning of RGB and hexadecimal formats.

(Example)RGB format is a color-formatting standard that describes the color of a pixel by the combination of specific amounts of Red, Green, and Blue light in the pixel. The amounts are described by numbers on a scale of 0-255, and the final format is as follows, "RRR,BBB,GGG." An example would be 255,0,0 which would have full red, and no green or blue. Hexadecimal format also describes amounts of each color, but the amounts are now described by hexadecimal numbers 00-FF, and the final color is described in the format, "#RRGGBB"

How are conversions between the two formats used in the field of engineering?

(Example)Conversions between the two formats are useful to engineers when moving from one language to another or one program to another. Ways that I have seen the two different formats include RGB in Microsoft Office color palettes and hex in HTML coding for web pages. Engineers who work with computers see many different languages and programs, which could require knowledge of many different standardized formats and ways to move smoothly from one format to another.