1

A i 8 ii 1000 1000000 **B** CD-ROM: mb Hard Disk: gb/tb # 2 **A** Computers use binary as it is much easier for them to understand over a “regular” number system we use such as denary (base 10 or just your classic 1 - 10)

B

```
128 64 32 16 8 4 2 1
0   1  1  0  1 0 0 1
64 + 32 + 8 + 1 = 105
```

Answer: 105 **C**

```
128 64 32 16 8 4 2 1
0   1  0  0  1 1 1 0
64 + 8 + 4 + 2 = 78
```

Answer: 78 # 3 **A** * FACE **B** * 10 bytes # 4 * Not quite sure # 5 **A** 00111100 (check 5(how-to-solve).png for working out) **B** 2A (check 6(how-to-solve).png for working out) **C** If you gave colour codes in binary over hex it is a lot harder for you to be able to quickly read them such as #ffff is white in hex but in binary it is a very big number which is a lot harder to read **D** Hex is also commonly used in error messages and is also used for the Mac Address on your computer **E** i When it says resolution what it means is how many pixels in the image ii 8*8=64 64*1=64 64/8=8 8 bytes iii When you add two colors such as red and green the 1 bit becomes 2 bits so you can have 4 colors therefore it increases the file size. 8*8=64 64*2=128 128/8=16 the file would then be 16 bytes over 8 bytes if you were to add two colors. # 6 **A** As you increase each setting such as the sample rate it will increase the quality of the file but it will also increase the size of the file **B** Ogg file type is the smallest file type and it should defiantly be able to be sent over email. Ogg is the best file type to use as it is the smallest file type for audio file that you can get. # 7 **A** Lossy compression is good to use when sending over something like text as it takes the item your sending and compression it without removing any text. Lossless compression finds patterns and replaces the item so when using something like a image it makes sense to use Lossless. But also how big is your file/image that you need to compress it to send it? That must be one big file **B** Check 7B.png