3) a)

0x0 + 2x1 + 25x1 + 5x1 = 0+2+25+5 = 32

|  |  |  |
| --- | --- | --- |
| 32 | 13+5+138 = 156 | 21+138+1 = 160 |
| 5+43+3 = 51 | 138+3+4 = 145 | 1+4+0 = 5 |
| 3+0+7 = 10 | 4+7+8 = 19 | 0+8+232 = 240 |

b)

|  |  |
| --- | --- |
| Max(32+156+51+145) = 156 | 160 |
| 145 | 240 |

c)

For a single channel image in a CNN with a first conv layer w/ 64 filters of size 5x2

Dimensionality of weights = 64x5x2x1

Dimensionality of biases = 64x1

For a multichannel image (RGB w/ 3 channels)

Dimensionality of weights = 64x5x2x3

Dimensionality of biases = 64x3