**hw\_09**

**1. Suppose you have an input volume of dimension nH x nW x nC. Which of the following statements you agree with? (“1x1 convolutional layer” below always uses a stride of 1 and no padding.) (a,c)**

1. You can use a 1x1 convolutional layer to reduce nC but not nH, nW.
2. You can use a 1x1 convolutional layer to reduce nH, nW, and nC.
3. You can use a pooling layer to reduce nH, nW, but not nC.
4. You can use a pooling layer to reduce nH, nW, and nC.

**2. Which of the following do you typically see as you move to deeper layers in a Convolution Network? (d)**

1. nH and nW increases, while nC decreases
2. nH and nW decreases, while nC also decreases
3. nH and nW increases, while nC also increases
4. nH and nW decreases, while nC also increases

**3. Suppose your input is a 300 by 300 color (RGB) image, and you use a convolutional layer with 100 filters that are each 5x5. How many parameters does this hidden layer have (without bias). (c)**

1. 2501
2. 2600
3. 7500
4. 7600

**4. You have an input volume that is 63x63x16, and convolve it with 32 filters that are each 7x7, using a stride of 2 and no padding. What is the output volume? (c)**

1. 16x16x32
2. 29x29x16
3. 29x29x32
4. 16x16x16

**5. What is the most suitable activation function for hidden layers? (b)**

1. Sigmoid
2. ReLu
3. Softmax
4. tanh