

Pop Quiz (Week 4) – 8 pts [10 minutes]

Name: _____

Student ID: _____

1. [1] The frequency domain response of a box filter in the spatial domain is a
 - ☐ Box
 - ☒ Sinc
 - ☐ Gaussian
2. [2] A box filter in spatial domain is not the ideal filter due to
 - ☐ Infinite support
 - ☒ Leakage frequency
 - ☐ Aliasing artifacts
3. [1] Correlation is used to find which of the following
 - ☒ DFT coefficients
 - ☐ IDFT coefficients
4. [4] Consider a 1D box filter $[1/3, 1/3, 1/3]$ and the gradient filter $[-1, 0, 1]$. What would be the operator gradient of box filter? Draw the 1D filter of the correct size.

$[1/3, 1/3, 0, -1/3, -1/3]$