

Quiz 5

623021039-4
Section 2

3²⁵⁶⁴ + 5²⁵⁶⁴ 7

[m] mod congruence class modulo 7.

$$[3^1] = [3]$$

$$[5^1] = [5]$$

$$[3^2] = [2]$$

$$[5^2] = [4]$$

$$[3^3] = [6]$$

$$[5^3] = [6]$$

$$[3^4] = [4]$$

$$[5^4] = [2]$$

$$[3^5] = [5]$$

$$[5^5] = [3]$$

$$[3^6] = [1]$$

$$[5^6] = [1]$$

$$[3^{2564} + 5^{2564}] = [3^6]^{427} [3^2] + [5^6]^{427} [5^2]$$

$$= [1] [2] + [1] [4]$$

$$= [6]$$