

Math 335 HW 2 - Due Feb. 20, 2004

1. Problem 2.9, pg. 71, of the text.
2. Problem 2.10, pg. 71 of the text.
3. Problem 2.12, pg. 71 of the text.
4. Problem 2.13, pg. 71 of the text.
5. Problem 2.6, pg. 70 of the text.
6. The following two ciphers were encrypted using the same $\mathbb{Z}_2$ one-time pad key. Decrypt them. (OK - call it a TWO-time pad.) English letters were first encoded by 5 binary bits as follows:

$$A \rightarrow 00000 \quad B \rightarrow 00001 \quad C \rightarrow 00010 \quad D \rightarrow 00011 \quad E \rightarrow 00100 \quad \dots \quad Y \rightarrow 11000 \quad Z \rightarrow 11001$$

Ciphertext 1:

11111 01010 00101 00101 11110 01011 00111 10110 00011 11010 11011 01111 00110

Ciphertext 2:

01100 11110 01010 10011 11010 01011 11001 10000 10111 10011 10100 11010 10111 11111