Homework 5 - Problem 1

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A.

A (35%) >--------------\
                        AEF (65%) >----- \
B (20%) >----------------\             > ABCDEF (100%)
                    /   > BEF (35%) > /
C (15%) > \         /    /
        > CD (30%)> /   /
D (15%) > /           /
                     /
E (8%) > \          /
         > EF (15%)> /
F (7%) > /

Codewords:                      Inverse:
A:  00                          A:  11
B:  01                          B:  10
C: 010                          C: 101
D: 011                          D: 100
E: 110                          E: 001
F: 111                          F: 000


B.

Codewords:
(2 * .35) + (2 * .2) + (3 * .15) + (3 * .15) + (3 * .08) + (3 * .07) = 2.45
   A             B            C            D            E            F

Inverse:
(2 * .35) + (2 * .2) + (3 * .15) + (3 * .15) + (3 * .08) + (3 * .07) = 2.45 (Same Size)
   A             B            C            D            E            F

C.

The code with the smallest sequence length is 2.45. Both Codewords and Inverse are the same
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