

21. **Answer (A):** The product of the zeros of f is c/a , and the sum of the zeros is $-b/a$. Because these two numbers are equal, $c = -b$, and the sum of the coefficients is $a + b + c = a$, which is the coefficient of x^2 . To see that none of the other choices is correct, let $f(x) = -2x^2 - 4x + 4$. The zeros of f are $-1 \pm \sqrt{3}$, so the sum of the zeros, the product of the zeros, and the sum of the

25. **Answer (E):** For each positive integer n , let $S_n = \{k : 1 \leq k \leq n\}$, and let c_n be the number of spacy subsets of S_n . Then $c_1 = 2$, $c_2 = 3$, and $c_3 = 4$. For $n \geq 4$, the spacy subsets of S_n can be partitioned into two types: those that contain n and those that do not. Those that do not contain n are precisely the spacy subsets of S_{n-1} . Those that