

COMP 2711: Discrete Mathematical Tools for Computer Science

In Class Exercise #3

1. Consider that $(x + b)^5 = (x + b)(x + b)(x + b)(x + b)(x + b)$

a) Upon multiplying out, and before collecting like terms, how many terms will be produced?

Answer:

32

b) How many times will that term x^3b^2 be produced? In other words, upon adding those like terms, what number will be the coefficient of x^3b^2 ?

Answer:

10

2. Expand $(a - b)^5$

Answer:

$$(a - b)^5 = a^5 - 5a^4b + 10a^3b^2 - 10a^2b^3 + 5ab^4 - b^5$$