

10.7.1: Binomial Theorem (Exercises)

Use the Binomial Theorem to do the following problems.

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| 1. Expand $(a + b)^5$. | 2. Expand $(a - b)^6$. |
| 3. Expand $(x - 2y)^5$. | 4. Expand $(2x - 3y)^4$. |
| 5. Find the third term of $(2x - 3y)^6$. | 6. Find the sixth term of $(5x + y)^8$. |
| 7. Find the coefficient of the x^3y^4 term in the expansion of $(2x + y)^7$. | 8. Find the coefficient of the a^4b^6 term in the expansion of $(3a - b)^{10}$. |
| 9. A coin is tossed 5 times, in how many ways is it possible to get three heads and two tails? | 10. A coin is tossed 10 times, in how many ways is it possible to get seven heads and three tails? |
| 11. How many subsets are there of a set that has 6 elements? | 12. How many subsets are there of a set that has n elements? |

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