# Crack the Code — Binomial Expansion

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|---|---|---|---|
| **A** | Find the coefficients of all terms in the expansion of $(x+1)^3$<br><br>$1, 3, 3, 1$ | **B** | Find the coefficients of all terms in the expansion of $(x+2)^4$<br><br>$1, 8, 24, 32, 16$ |
| **C** | Find the coefficients of all terms in the expansion of $(x-1)^5$<br><br>$1, -5, 10, -10, 5, -1$ | **D** | Find the coefficients of all terms in the expansion of $(2x+1)^3$<br><br>$8, 12, 6, 1$ |
| **E** | Find the coefficients of all terms in the expansion of $(3+x)^3$<br><br>$27, 27, 9, 1$ | **F** | Find the coefficients of all terms in the expansion of $(4-x)^4$<br><br>$256, -256, 96, -16, 1$ |
| **G** | Find the coefficient of the $x^5$ term in the expansion of $(x+5)^6$<br><br>$30$ | **H** | Find the coefficient of the $x$ term in the expansion of $(2+x)^7$<br><br>$448$ |
| **I** | Find the coefficient of the $x^3$ term in the expansion of $(x-7)^4$<br><br>$-28$ | **J** | Find the coefficient of the $x^3$ term in the expansion of $(1-2x)^5$<br><br>$-80$ |
| **K** | The coefficient of the $x$ term in the expansion of $(x+a)^4$ is $500$. Find $a$.<br><br>$5$ | **L** | The coefficient of the $x^2$ term in the expansion of $(2x-b)^5$ is $-13720$. Find $b$.<br><br>$7$ |

To get the three-digit code, add together all your answers. $643$