

Nickname: _____ No. ____ M3/ ____

A. Factoring Sum/Difference of Cubes $A^3 \pm B^3 = (A \pm B)(A^2 \mp AB + B^2)$

B. Factoring Cube of a Binomial

i. $(A + B)^3 = A^3 + 3A^2B + 3AB^2 + B^3$

ii. $(A - B)^3 = A^3 - 3A^2B + 3AB^2 - B^3$

Drag and drop the correct factor of each of the following polynomials next to each of the following on the space provided.

1. $1 - a^3$ _____
2. $-27u^3 + 125$ _____
3. $250x^4 + 128x$ _____
4. $343m^3 - 64n^6$ _____
5. $x^3 + 12x^2 + 48x + 64$ _____
6. $27a^3 + 54a^2b + 36ab^2 + 8b^3$ _____
7. $5y^3z + 60y^2z + 240yz + 320z$ _____
8. $2x^3z - 18x^2z + 54xz - 54z$ _____
9. $27x^6 + 54x^4z^2 + 36x^2z^4 + 8z^6$ _____
10. $10m^3 - 30m^2n + 30mn^2 - 10n^3$ _____

$(1 - a)^3$ $(1 - a)(1 + a + a^2)$ $(a - 1)^3$
 $(5 - 3u)(25 + 15u + u^2)$
 $(-3u + 5)(9u^2 + 15u + 25)$
 $(5x + 4)(25x^2 - 20x + 16)$
 $2x(5x + 4)(25x^2 - 20x + 16)$
 $(7m - 4n)(49m^2 + 28mn + 16n^2)$
 $(7m - 4n^2)(49m^2 + 28mn^2 + 16n^4)$
 $x^3 + 4^3$ $(x + 4)^3$ $(x + 8)^3$
 $(3a + 2b)^3$ $(3a + 8b)^3$
 $5z(y + 4)^3$ $5z(y + 2)^3$
 $(3x^2 + 2z^2)^3$ $(3x^2 + 2z^2)^3$
 $2z(x - 2)^3$ $2z(x - 3)^2$
 $(10m - n)^3$ $10(m - n)^3$