PERFECT CUBES AND CUBE ROOTS

What is a Perfect Cube?

- A perfect cube is a number produced by multiplying the same number by itself twice.

Examples:

- $1^3 = 1 \times 1 \times 1 = 1$
- $2^3 = 2 \times 2 \times 2 = 8$
- $3^3 = 3 \times 3 \times 3 = 27$
- $4^3 = 4 \times 4 \times 4 = 64$
- $5^3 = 5 \times 5 \times 5 = 125$
- $6^3 = 6 \times 6 \times 6 = 216$

Exponential Form

- Exponential form takes the number and uses a subscript to represent how many times we multiply the number by itself.

- Example
- $2 \times 2 \times 2 = 2^3$
- $12 \times 12 \times 12 = 12^3$

Cube Roots

- cube roots can be a negative number
- $\sqrt[3]{-8} = -2$

- Cube roots represented in exponential form and as a perfect cube
- *1000* = 10^3
- $\sqrt[3]{1000} = 10$

Factoring to determine the answer to a cube root

- This is an example of a perfect cube, so the two factors are identical

What happens when we have a imperfect cube

- There will be a coefficient
- Can you identify the coefficient?

The coefficient is in front of the root

Practice

- Worksheet