Algebra 1 ECA Remediation Day 29

Simplifying Square Roots

Simplifying square roots involves the use of prime factorization and product property to simplify.

Example #1

Simplify.

$\sqrt{80}$

$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5}$

$\sqrt{2^2 \cdot 2^2 \cdot 5}$

$\sqrt{2^2} \cdot \sqrt{2^2} \cdot \sqrt{5}$

$2 \cdot 2\sqrt{5}$

$4\sqrt{5}$

Example #2

Simplify.

$\sqrt{90x^3y^4z^5}$

$\sqrt{2 \cdot 3^2 \cdot 5 \cdot x^3 \cdot y^4 \cdot z^5}$

$\sqrt{2} \cdot \sqrt{3^2} \cdot \sqrt{5} \cdot \sqrt{x^2} \cdot \sqrt{x} \cdot \sqrt{y^4} \cdot \sqrt{z^4} \cdot \sqrt{z}$

$\sqrt{2} \cdot 3 \cdot \sqrt{5} \cdot x \cdot \sqrt{x} \cdot y^2 \cdot z^2 \cdot \sqrt{z}$

$3xy^2z^2 \cdot \sqrt{10xz}$