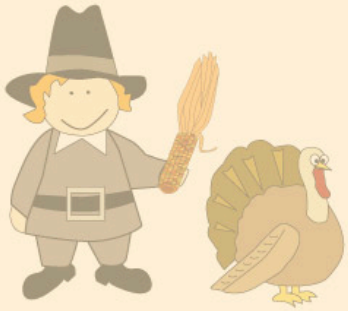
8th Grade
Lesson 44

- I can find the roots of numbers.
- I can simplify exponents & roots correctly in order of operations.



The inverse operation of raising to a power is called taking the **root**.

$2^4 = 16$

$\sqrt[4]{16} = 2$

"the fourth root of sixteen equals two"

$2 \cdot 2 \cdot 2 \cdot 2$

index **radical sign** **root** **radicand**

$\sqrt[4]{16} = 2$

radical expression
or just **radical**

$\sqrt[4]{81} = 3$

$\sqrt[3]{27} = 3$

$\sqrt{16} = 4$

$\sqrt[3]{8} = 2$

$\sqrt{8^2}$

$\sqrt[4]{625} = 5$

$\sqrt[4]{2^4}$

$\sqrt[3]{64} = 4$

$4 \cdot 4 \cdot 4 = 64$

$1^5 = 1$

$1^3 = 1$

$\sqrt[3]{1} = 1$

$\sqrt[6]{1} = 1$

$$4(3 - 2 + 8) + 2^2 - \sqrt[3]{27} + 12 \div 2$$

$4(1+8) + 2^2 - \sqrt[3]{27} + 12 \div 2$

$4(9) + 2^2 - \sqrt[3]{27} + 12 \div 2$

$4(9) + 4 - 3 + 12 \div 2$

$36 + 4 - 3 + 6$

$40 - 3 + 6$

$37 + 6$

43

Assignment:

Problem Set 44

due Wed.

Test #10 on Tuesday