

# Homework Review:

Sect 10.2 #s 18 - 26 evens

$$18) 2\sqrt{14}$$

$$20) 9\sqrt{2}$$

$$22) 7\sqrt{5}$$

$$24) 10\sqrt{2}$$

$$26) 80$$

$$(26) 4\sqrt{2} \cdot 5\sqrt{8}$$

$$20\sqrt{16}$$

$$20 \cdot 4$$

$$80$$

$$(20) 3\sqrt{18}$$

$$3\sqrt{9} \cdot \sqrt{2}$$

$$3 \cdot 3\sqrt{2}$$

$$9\sqrt{2}$$

The background of the slide features a close-up, slightly blurred image of a wooden pencil with a sharpened lead tip, resting on a sheet of white graph paper. The pencil is oriented diagonally from the bottom left towards the top right. The graph paper has a grid of light gray lines, and some faint, handwritten numbers are visible in the upper right corner. The overall lighting is warm and soft.

# SECTION 10.2

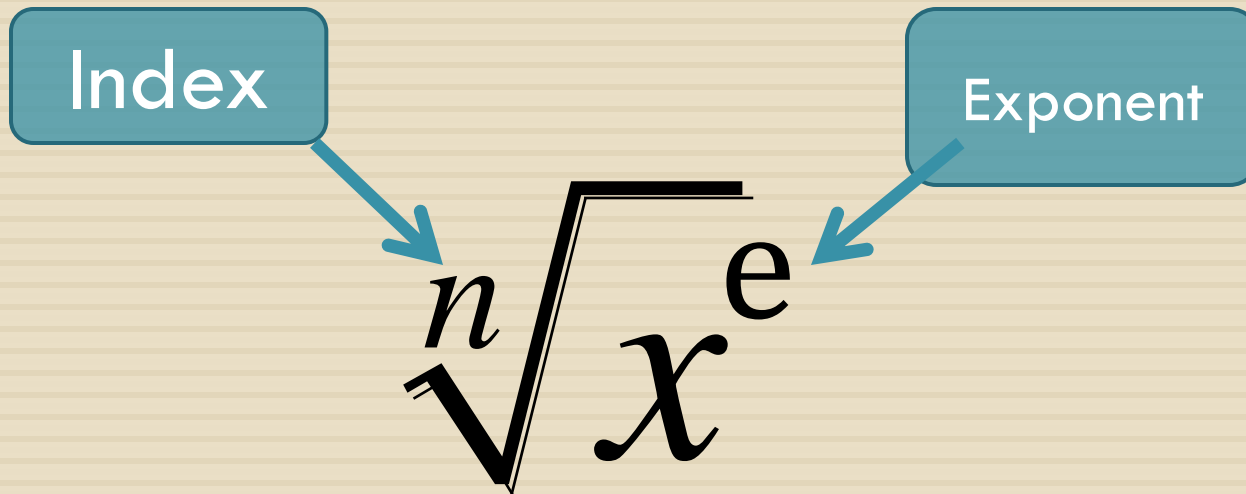
## DAY 2

### RATIONAL EXPONENTS

**SWBAT:**

- write expressions with exponents in radical form.
- Simplify expressions in radical or exponent form.

# Simplifying Radicals With Variables



- If there is no number in the index, it means  $n = 2$
- Think “square root” =  $2^{\text{nd}}$  root

# Simplifying Radicals With Variables

□ Simplify

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

exponent  
index  
 $\frac{4}{2}$

$$a^2$$

$$\sqrt[2]{b^5}$$

$$b^2\sqrt{b}$$

$$\sqrt{a^2} \sqrt{a^2}$$

$$a \cdot a$$

$$a^2$$

$$\sqrt{b^2} \sqrt{b^2} \sqrt{b}$$

$$b \cdot b \sqrt{b}$$

$$b^2\sqrt{b}$$

# Simplifying Radicals With Variables

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

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

$$\sqrt{9} \sqrt{10} \sqrt{x^2} \sqrt{x} \sqrt{y^4} \sqrt{z^4} \sqrt{z}$$

$$3\sqrt{10} \cdot x\sqrt{x} \cdot y^2 \cdot z^2\sqrt{z}$$

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

# Simplifying Radicals With Variables

$$\sqrt{32r^2k^4t^5}$$

$$\begin{array}{cccc}\sqrt{32} & \sqrt{r^2} & \sqrt{k^4} & \sqrt{t^5} \\ \wedge & | & | & \wedge \\ \sqrt{16}\sqrt{2} & \cdot \sqrt{r^2} & \cdot \sqrt{k^4} & \cdot \sqrt{t^4}\sqrt{t} \\ 4\sqrt{2} & \cdot r & \cdot k^2 & \cdot t^2\sqrt{t}\end{array}$$

$$4rk^2t^2\sqrt{2t}$$

$$\sqrt{x^2}$$

X

# Simplifying Radicals With Variables

$$\sqrt{6xy^5z^7} \cdot \sqrt{6y^5}$$

$$\sqrt{36x y^{10} z^7}$$

$$\sqrt{36} \cdot \sqrt{x} \cdot \sqrt{y^{10}} \cdot \sqrt{z^6} \sqrt{z}$$

$$6 \cdot \sqrt{x} \cdot y^5 \cdot z^3 \sqrt{z}$$

$$6y^5 z^3 \sqrt{xz}$$

# HOMEWORK



- **Worksheet – Simplify and color!**