Today's Plan:

Learning Target (standard): I will convert from rational exponents to radical form and from radical form to exponential form.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and take a quiz on radicals and rational exponents.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide quiz problems on radicals and rational exponents.

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats, and actively engage in quiz problems.

Radicals & Rational Exponents Practice

1) $10yz^2\sqrt[3]{3x^2z^2}$

2) $-32xyz\sqrt{6x}$

3) $-9\sqrt[4]{2}+12\sqrt[4]{6}$

4) $-8\sqrt[4]{4}-6\sqrt[4]{3}$

5) $-4\sqrt{10}+16\sqrt{5}$

6) -40

7) $\frac{\sqrt{6}}{5}$

8) $\frac{5\sqrt[4]{24}-3\sqrt[4]{8}}{10}$

9) $\frac{-2+2\sqrt{3}}{3}$

10) $\frac{3-3\sqrt{5}-2\sqrt{2}+2\sqrt{10}}{20}$

11) $(5x)^{-\frac{5}{4}}$

12) $(7x)^{\frac{5}{3}}$

13) $\left(5n^2\right)^{\frac{1}{3}}$

14) $(7x)^{\frac{1}{3}}$

15) $\frac{1}{r^8}$

16) $5x^3$

17) $24m^{\frac{7}{2}}n^{\frac{13}{6}}$

18) $\frac{8b^{\frac{1}{3}}}{a^{\frac{1}{3}}}$

Simplify.

$$\sqrt[3]{-8a^6b^{12}}$$

$= \sqrt[3]{2\cdot2\cdot2\,a^3a^3b^3b^3b^3b^3}$

$= -2a^2b^4$

Simplify.

$$4x\sqrt{12x^2y}+\sqrt{3x^4y}-x^2\sqrt{27y}$$

$= 4x\sqrt{2\cdot2\cdot3\,x\cdot x\cdot y}+\sqrt{3\,x\,x\,x\,x\,y}-x^2\sqrt{3\cdot3\cdot3\cdot y}$

$= 8x^2\sqrt{3y}+x^2\sqrt{3y}-3x^2\sqrt{3y}$

$= 6x^2\sqrt{3y}$