Advanced Algebra

What are we learning in Unit 10 – Radical Expressions and Functions?

Self-Ratings:

1: I've never seen this topic and wouldn't even know how to begin.

2: I've heard or seen this before, but don't know how to start or complete the problem.

3: I know the topic and can work through the problem but am unsure whether I am correct.

4: I feel confident that I could present my work and solution to the class.

5: I feel that I could correctly teach this topic to another student if asked. Pre-Unit Mid-Unit Post-Unit

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| **Target** | **Examples** | **Date:** | **Date:** | **Date:** |
| **10A.**  Simplify radical expressions with various indices. | **Simplify the expressions. Assume all variables are positive.**1. $\sqrt[4]{\frac{a^{12}}{b^{24}}}$ 2. $\frac{6^{\frac{1}{2}}}{24}$ 3. $\sqrt{121f^{6}g^{9}h^{3}}$
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| **10B.** Perform operations on radical expressions with various indices. | **Perform the indicated operation.** 4. $-3\sqrt{300} - \left(2\sqrt{27}-2\sqrt{243}\right)$ 5. $3\sqrt[3]{8} + \frac{1}{2}\sqrt[3]{64} - 2\sqrt[3]{27}$ 6. $\frac{\sqrt{2}-7}{\sqrt{2}+7} $ 7. $\left(\sqrt{3}-\sqrt{4}\right)\left(\sqrt{5}+1\right)\left(\sqrt{3}+\sqrt{4}\right)$ |  |  |  |
| **10C.** Solve equations containing radicals. | **Solve. Check for extraneous solutions.**8. $\sqrt{\frac{1}{2}x+20} = \sqrt{x-10}$ 9. $12-2\sqrt[5]{q} = -2$  |  |  |  |
| **10D.** Graph and state the domain and range of radical functions in  form. | **Determine the graph of the function.**10. $f\left(x\right)= \sqrt{2x+1}+ 3 $ **Determine the domain and range of the function.**11. $f\left(x\right)= -3\sqrt{2x+5}+ 8$ |  |  |  |