Math 11 Pre-Calculus LG 9

RADICALS

INTRODUCTION:

Radical equations can be used to model a variety of relationships. Check out pages 270-271.

LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

1) Convert between entire and mixed radicals.
2) Compare and order radicals.
3) Add and subtract radicals.
4) Multiply and divide radicals.
5) Solve radical equations.

EVALUATION:

You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Please refer to your Mathematics 11 Pre-Calc Marks Record Sheet to determine the assessment.

RESOURCES NEEDED:

Math 11 Pre-Calc Text

THSS Math 11 Pre-Calc Learning Guides.

LEARNING ACTIVITIES:

Expectation #1: Convert between entire and mixed radicals.
Expectation #2: Compare and order radicals.
Expectation #3: Add and subtract radicals.

1. Watch and take notes on instructional video on Converting Mixed-Entire Radicals with variables.
2. In the textbook, read *Link the Ideas* on page 273.
3. In the textbook, work through Example 1 on page 274. Now complete *Your Turn* on page 274.
4. Read *Radicals in Simplest* form on page 274.
5. Work through Example 2 on page 275. Now complete *Your Turn* on page 275.

6. In your math journal, explain and give an example of how to convert a mixed radical to an entire radical and explain and give an example of how to convert an entire radical to a mixed radical.

7. In the textbook, complete pages 278-279 #1-4.

8. Watch and take notes on instructional video on Ordering Radical Numbers.

9. Watch and take notes on instructional video on Adding and Subtracting Radicals.

10. In the textbook, work through Examples 3 and 4 and complete the corresponding *Your Turns.*

11. Read Key Ideas on page 278. In your journal,
a) describe how you would compare radicals. Use an example to illustrate.
b) describe how you would add or subtract radicals. Use an example to illustrate.
c) describe how to simplify radicals. Use an example to illustrate.

12. In the textbook, complete pages 278-279 #5, 6, 8-10, 11, 13, 14, 17.

Expectation #4: Multiply and divide radicals.

1. Watch and take notes on instructional video on Multiplying Radicals.

2. In the textbook, read *Link the Ideas* on page 284.
3. Work through Example 1 on page 284. Now complete Your Turn on page 285.

4. In your math journal, describe how to multiply radicals. Use an example to illustrate.

5. Watch and take notes on instructional video on Dividing Radicals.

6. Read *Dividing Radicals* on page 286 and *Rationalizing the Denominators* on page 287.
7. Work through Example #3 on page 287 and then complete *Your Turn* on page 288.

8. Read Key Ideas on page 289. In your math journal,
a) describe how to divide radicals. Use an example to illustrate.
b) describe how to rationalize the denominator. Use an example to illustrate.

9. In the textbook, complete pages 289-292 #1-12, 13, 14, 15, 16, 20.

Expectation #5: Solve radical equations.

1. Watch and take notes on instructional video on Solving Radical Equations.

2. In the textbook, work through Examples 1-4 on pages 296-299 completing each *Your Turn* for practice.

3. Read *Key Ideas* on page 300. In your math journal, describe how to solve radical equations. Use an example to illustrate.

4. In the textbook, complete pages 300-302 #1-10, 11-14, 21

REVIEW AND CHALLENGE

1. In the textbook, complete Chapter 5 Review pages 304-305 #1-21.

Key Terms: like radicals, mixed radicals, entire radicals, rationalize, conjugate.

PRACTICE QUIZZES

Practice quiz #1
Practice quiz #2
Practice quiz #3
Practice quiz #4