

Math 12 Pre-Calculus LG 10/11

TRIG IDENTITIES



INTRODUCTION:

This learning guide will explore equivalent trigonometric identities. Check out pages 288-289.



LEARNING GUIDE EXPECTATIONS:

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

- 1) Verify reciprocal, quotient, and Pythagorean identities numerically and graphically.
- 2) Verify sum, difference, and double angle identities numerically and graphically.
- 3) Prove trig identities algebraically.
- 4) Solve trig equations using identities.



EVALUATION:

Write the LG 10-11 assessment quiz.



RESOURCES NEEDED:



Math 12 Pre-Calc Text



Math 12 Pre-Calc Learning Guides.



sd4onlinemath.yolasite.com

LEARNING ACTIVITIES:



Expectation #1: Verify reciprocal, quotient, and Pythagorean identities numerically and graphically.



1. [Watch and take notes on instructional video on Trig Identities – Part 1.](#)



2. In the textbook, complete “Investigate Comparing Two Trigonometric Expressions” question #1 only.

3. Read Link the Ideas on page 291.
4. Work through Examples 1 and 2 on pages 291-294 and complete the corresponding “Your Turn” questions.
5. Read the Pythagorean Identity on page 294
6. Work through Example 3 on page 295. Complete the Your Turn questions on page 295.
7. Read Key Ideas on page 296.



10. In your math journal, describe the difference between verifying and proving trig identities.



11. In the textbook, complete pages 296 – 298 #1 – 8, 10 – 12.



Expectation #2: Verify sum, difference, and double angle identities numerically and graphically.



1. [Watch and take notes on Trig Identities – Part 2.](#)



2. Read Link the Ideas on page 300 – 301.

3. Work through Examples 1-4 on pages pages 301 – 305 and complete the corresponding Your Turn questions.

4. Read Key Ideas on page 305.



5. In the textbook, complete pages 306 – 308 #1, 2, 4, 5, 8, 9, 10, 15, 16, 20.



Expectation #3: Prove trig identities algebraically.



1. [Watch and take notes on instructional video on Proving Trig Identities.](#)



2. Read Link the Ideas on page 310.

3. Work through Examples 1-4 on pages 310 - 313 and complete the corresponding Your Turn questions.



4. Read Key Ideas on page 313. In your journal, make a list of the strategies useful in proving identities.



5. In the textbook, complete pages 314-316 #1-8, 10, 11.



Expectation #4: Solve trig equations using identities.



1. [Watch and take notes on instructional video on Solving Trig Equations using Identities.](#)



2. Read Link the Ideas on page 317.

3. Work through Examples 1-4 on pages 317 - 320 and complete the corresponding Your Turn questions.



4. Read Key Ideas on page 320.



5. In the textbook, complete pages 320 – 321 #1 – 6, 8, 10, 11.

REVIEW AND CHALLENGE



1. In the textbook, complete Chapter 6 Review pages 322 - 323 #1 – 21.

2. Complete Chapter 6 Practice Test page 324 #1 – 16.

Key Terms: trig identity, verify, prove.

PRACTICE QUIZZES

[Practice quiz #1](#)

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)