Math 8 LG 4

PYTHAGOREAN RELATIONSHIP



The Pythagorean Relationship is a very important concept and one you will use in future math courses right though to grade 12.... Check out Chapter 3 Opener pages 76 & 77.

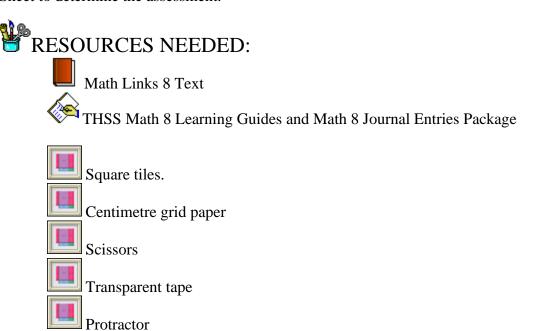
V LEARNING GUIDE EXPECTATIONS:

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

- 1) find the squares and square roots of whole numbers.
- 2) determine whether a triangle is a right triangle.
- 3) estimate the square roots of whole numbers.
- 4) apply the Pythagorean relationship to find missing dimensions of triangles.



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 8 Marks Record Sheet to determine the assessment.



LEARNING ACTIVITIES:



Expectation #1: Find the squares and square roots of whole numbers.



1. Watch and take notes on instructional video on Squares.



- 2. Watch and take notes on instructional video on Square Roots.
- 3. In the Math Links 8 text, read the introduction on Chapter 3 Section 3.1 page 80 and then complete the Explore the Math activity on Chapter 3 Section 3.1 pages 80-81.
- 4. In the Math Links 8 text, work through Example 1 on Chapter 3 Section 3.1 page 82. Now complete Chapter 3 Section 3.1 #5, 7, 8 on page 85.
- 5. In the Math Links 8 text, work through Example 2 on Chapter 3 Section 3.1 page 83. Now complete Chapter 3 Section 3.1 #9-12 on page 85.
- 6. In the Math Links 8 text, work through Example 3 on Chapter 3 Section 3.1 pages 83-84. Now complete Chapter 3 Section 3.1 #13-16 on pages 85-86.



7. Read Key Ideas on Chapter 3 Section 3.1 page 84. In your math journal, complete the journal entry for LG4 Expectation 1.



8. In the Math Links 8 text, complete Chapter 3 Section 3.1 #17, 18, 19, 21, 24, 25a,b,c,d on pages 86-87.



Expectation #2: Determine whether a triangle is a right triangle.



1. Watch and take notes on instructional video on the Pythagorean Relationship.



- 2. In the Math Links 8 text, read the introduction on Chapter 3 Section 3.2 page 88 and then complete the Explore the Math activity on Chapter 3 Section 3.2 pages 88-89. In step #3, the table has been provided in your Journal.
- 3. In the Math Links 8 text, work through Example 1 on Chapter 3 Section 3.2 page 90. Now complete Chapter 3 Section 3.2 #4, 5, 6 on pages 92-93.
- 4. In the Math Links 8 text, work through Example 2 on Chapter 3 Section 3.2 pages 90-91. Now complete Chapter 3 Section 3.2 #8, 9, 10 on page 92.



5. Read Key Ideas on Chapter 3 Section 3.2 page 91. In your math journal, complete the journal entry for LG4 Expectation 2.



6. In the Math Links 8 text, complete Chapter 3 Section 3.2 #12, 13, 17, 18, 21 on pages 93-94.



Expectation #3: Estimate the square roots of whole numbers.



- 1. Watch and take notes on instructional video on Estimating Square Roots.
- 2. In the Math Links 8 text, read the introduction on Chapter 3 Section 3.3 page 95 and then complete the Explore the Math activity on Chapter 3 Section 3.3 page 95.
- 3. In the Math Links 8 text, work through Example 1 on Chapter 3 Section 3.3 page 96. Now complete Chapter 3 Section 3.3 #4, 5 on pages 99.
- 4. In the Math Links 8 text, work through Example 2 on Chapter 3 Section 3.3 pages 97. Now complete Chapter 3 Section 3.3 #6-9 on page 99.



5. Read Key Ideas on Chapter 3 Section 3.3 page 98. In your math journal, complete the journal entry for LG4 Expectation 3.



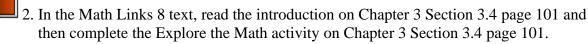
6. In the Math Links 8 text, complete Chapter 3 Section 3.3 #10, 12, 14, 15, 17 on pages 99-100.



Expectation #4: Apply the Pythagorean relationship to find missing dimensions of triangles.



1. Watch and take notes on instructional video on Using the Pythagorean Relationship.



- 3. In the Math Links 8 text, work through Example 1 on Chapter 3 Section 3.4 page 102. Now complete Chapter 3 Section 3.4 #3-5 on page 104.
- 4. In the Math Links 8 text, work through Example 2 on Chapter 3 Section 3.4 pages 102. Now complete Chapter 3 Section 3.4 #6, 7 on page 104.



5. Read Key Ideas on Chapter 3 Section 3.4 page 103. In your math journal, complete the journal entry for LG4 Expectation 4.



- 6. In the Math Links 8 text, complete Chapter 3 Section 3.4 #8, 9, 10, 11, 13 on pages 104-
- 7. In the Math Links 8 text, complete Chapter 3 Section 3.5 #3, 4, 6, 8, 12, 13 on pages 110-111.

REVIEW AND CHALLENGE



1. In the Math Links 8 text, complete Chapter 3 Review pages 112-113 #1-10, 12-14, 16, 17.