

Foundations of Math 11 LG 3&4

Properties of Angles and Triangles



INTRODUCTION:

How do architects use geometry to enhance their designs? Check out pages 66-67.



LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to develop your spatial sense by:

- 1) proving properties of angles formed by intersecting lines.
- 2) proving properties of angles in triangles and other polygons.
- 3) using proven properties to solve geometric problems.



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 Foundations of Mathematics 11 Marks Record Sheet to determine the assessment.



RESOURCES NEEDED:



Foundations of Mathematics 11 Text and possible Internet access.

LEARNING ACTIVITIES:



Expectation #1: Proving properties of angles formed by intersecting lines.



1. [Watch and take notes on instructional video on Angles of Parallel Lines.](#)



2. In the Foundations of Mathematics 11 text, read pages 68-74 and make sure you pay attention to the green boxes and work through Example 1 on pages 75-76. Complete **Your Turn** on page 76.

3. Work through Example 2 on page 76. Complete **Your Turn** on page 76.

4. Work through Example 3 on page 77. Complete **Your Turn** on page 77.



5. Complete #2, 4, 6, 8, 10, 12, 14, 16, 18 & 20 on pages 78-82.

6. Read page 16 and work through Reflecting (A, B & C) on page 16.



7. In your math journal, complete the journal entry for LG3&4 Expectation 1 after you read the **In Summary** box on pp. 71.



8. In your math journal, complete the journal entry for LG3&4 Expectation 1 after you read the **In Summary** box on p. 78.



Expectation #2 & #3: Proving properties of angles in triangles and other polygons and using proven properties to solve geometric problems.



1. [Watch and take notes on instructional video on Angles of Triangles.](#)



2. Read pages 86 & 87 and work through Example 1 on page 87. Complete **Your Turn** on page 87.



3. Read page 88 and work through Example 2 on page 88. Complete **Your Turn** on page 88.



4. Read pages 88 & 89 and work through Example 3 on pages 88 & 89. Now complete **Your Turn** on page 89.



5. Complete #2, 4, 6, 8, 10, 12, 14, 16 & 18 on pages 90-93.



6. [Watch and take notes on instructional video on Angles of Polygons.](#)



7. Work through Investigate the Math on pages 94-95. Now complete **Reflecting (K & L)** on page 95.

8. Work through Example 1 on page 96. Complete **Your Turn** on page 96.

9. Work through Example 2 on page 97. Complete **Your Turn** on page 97.

10. Work through Example 3 on page 98. Complete **Your Turn** on page 98.



11. Complete #2, 4, 6, 8, 10, 12, 14, 16, 18 & 20 on pages 99-103.



12. In your math journal, complete the journal entry for LG3&4 Expectation 2&3 after you read the **In Summary** box on p. 90.



13. In your math journal, complete the journal entry for LG3&4 Expectation 2&3 after you read the **In Summary** box on p. 99.



REVIEW AND CHALLENGE

Important Terms For This Learning Guide

- Exterior Angles
- Transversal
- Corresponding Angles
- Converse
- Interior Angles
- Alternate Interior Angles

- Alternate Exterior Angles
- Non-adjacent Interior Angles
- Convex polygon



1. In the Foundations of Mathematics 11 read History | Connection (Buckyballs – Polygons in 3 - D) and complete A, B & C on page 103.



2. Complete **PRACTISING** #1, 3, 5 & 7 on page 85.



3. Complete #1-6 Chapter Self-Test on page 104.



4. Read page 105 and complete #1-11 Chapter 2 Review on page 106.

PRACTICE QUIZZES

[Practice quiz #1](#)

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)