Geometry Chapter 9 RT

January 27 start Q3

Chapter 9 Opener: Right Triangles and Trigonometry
Chapter Learning Target: Understand right triangles and trigonometry. **Chapter Success Criteria** (♦ Surface, ■ Deep) ♦ Use the Pythagorean Theorem to solve problems. ♦ Find side lengths in special right triangles. ■ Explain how similar triangles are used with trigonometric ratios. ■ Use trigonometric ratios to solve problems.

Week Overview: Geometry (Reg./CP) Q3 Jan. 27, 2025

Monday: Open with Review Problem from Midterm on right triangle finding a leg length to lead into chapter 9 on working with solving a right triangle. Show that this makes it easier to draw and get to angles.

Review the FID lesson location, download, and bigideasmath.com video examples. Remind students that HARD TEXTBOOK should be AT home as a plan B. Complete the google form.

Notes on what makes a right triangle based on side lengths. Example with Triangle Inequality and the Pythagorean Theorem CONVERSE for right, acute, and obtuse. Use Example Video # 4 and #5 with self -assessment problems such as in FID lessons.

Tuesday: Practice Day with finishing for homework the exercises Section 9.1 Practice online #18-24 with them in reverse order. Then do Practice softBOOK pg. 141 #1-11.

Continue for CP Geometry with practice on 9.1 & 9.2

Wednesday: CP students only do the odds off worksheets for homework.

https://cdn.kutasoftware.com/Worksheets/Geo/5-The%20Triangle%20Inequality%20Theorem.pdf

https://cdn.kutasoftware.com/Worksheets/Geo/8-The%20Pythagorean%20Theorem%20and%20Its%20Converse.pdf

NOTES today will cover special right triangles for a memorized pattern of missing side in section 9.2

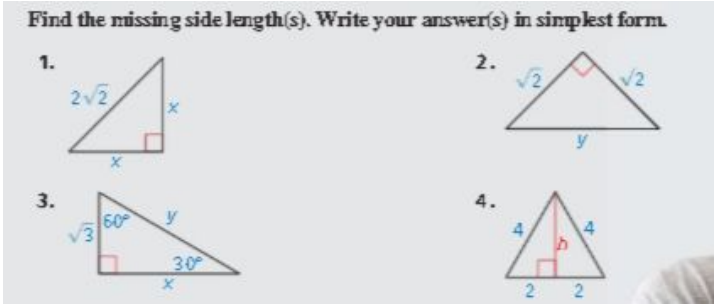
Draw 2 triangles to scale and discuss SAT Formula sheet notation and how to work the pattern given any missing length.

Use Video Examples reference and self assessment problems listed below 1-4

Thursday Pg. 143 # all in Soft Practice book and then online practice in dynamic classroom 9.2 Practice # 1-8

Friday: Practice with the KUTA software page https://cdn.kutasoftware.com/Worksheets/Geo/8-Special%20Right%20Triangles.pdf

Exit Ticket given 3 problems find the other missing 2 sides of each.



Monday - Tuesday, Friday Objectives

Section 9.1: The Pythagorean Theorem

Common Core State Standards: G.SRT.B.4, G.SRT.C.8
Learning Target: Understand and apply the Pythagorean Theorem.
Success Criteria

- List common Pythagorean triples.
- Find missing side lengths of right angles.
- Classify a triangle as *acute*, *right*, or *obtuse* given its side lengths.

Vocabulary: Pythagorean triple

Section 9.4: The Tangent Ratio

Common Core State Standards: G.SRT.C.6, G.SRT.C.8
Learning Target: Understand and use the tangent ratio.
Success Criteria

- Explain the tangent ratio.
- Find tangent ratios.
- Use tangent ratios to solve real-life problems.

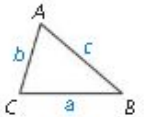
Vocabulary: trigonometric ratio, tangent, angle of elevation

THEOREM

9.3 Pythagorean Inequalities Theorem

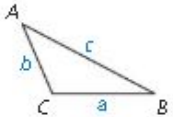
For any $\triangle ABC$, where c is the length of the longest side, the following statements are true.

If $c^2 < a^2 + b^2$, then $\triangle ABC$ is acute.



$c^2 < a^2 + b^2$

If $c^2 > a^2 + b^2$, then $\triangle ABC$ is obtuse.



$c^2 > a^2 + b^2$

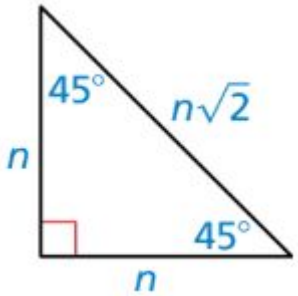
Prove this Theorem Exercises 35 and 36, page 453

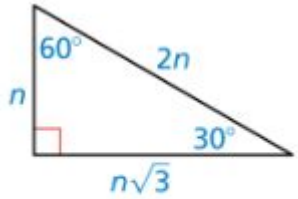
CP Geometry - Extra Chapter Objective on Special RT.

Section 9.2: Special Right Triangles

Common Core State Standards: G.SRT.B.4
Learning Target: Understand and use the special right triangles.
Success Criteria

- Find side lengths in 45°-45°-90° triangles.
- Find side lengths in 30°-60°-90° triangles.
- Use special right triangles to solve real-life problems.





hypotenuse = shorter leg · 2

longer leg = shorter leg · $\sqrt{3}$

……Sample Problem