



Unit 6 Notes

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Lesson 1

Lesson 1 is an intro to proportions and similar polygons. It basically went over scale factors/dilation. It is the beginning of the lessons where cross multiplication is invaluable, as my 6th grade teacher promised it would be(I didn't originally believe him). The lesson is full of new information, although it was touched on in previous lessons. Overall, lesson one was a great introduction to the world of ratios and proportions as they apply to similar polygons.

Lesson 2

Lesson 2 begins with the properties of triangles that allow for similarity, such as \sim AA, \sim SAS, and \sim SSS. Although the information was new, it was very similar to the congruence theorems, but with similarity in mind. We also learned the reflexive, transitive, and symmetric similarity theorems, enabling us to work with our proven similar triangles. Lesson two was short but sweet, a perfect step up from lesson one.

Lesson 3

Lesson three was a brief lesson, telling us only about four important corollaries and theorems. The Triangle Proportionality Theorem and its converse as well as the Two Transversal Proportionality Corollary and the Triangle Angle Bisector Theorem only apply to certain triangles. Lesson three, although short, aided the understanding of many problems, the couldn't be solved without its theorems. Overall, it tied together 2 and 4 with its added teachings.

Lesson 4

Lesson 4 focused on geometric mean and identifying similar triangles. Its primary purpose was to get us seeing a large right triangle with an altitude drawn as forming 3 similar triangles. It really gave a new perspective on how one triangle can have 2 smaller triangles inside, that are all proportional. Although very important, lesson 4 could've been anywhere in the unit, it just was background information.

Lesson 5

With lesson 5 came a little preview of what we will learn in trigonometry. Not only did we learn sine, cosine, and tangents, we learned how to use them. After realizing why those buttons were on the calculator, I realized that our trigonometric ratios save a lot of time. Knowing what lesson 5 told allows us to solve for angles and sides in right triangles with limited given information. It really tied geometry and trigonometry together well.

Lesson 6

Lesson 6 taught us about a more practical use of trigonometry- angles of elevation and depression. Now if we are ever stranded at sea and know the height and angle of elevation toward a lighthouse, we can use its beam, and trigonometry, to find our distance. Many of lesson 6 related questions involve surveyors and measuring tools for some reason. Maybe if any of us become surveyors, we will understand why. For now, it is just helpful information before lesson 7.

Lesson 7

Lesson 7 is the real deal. Now using trigonometry and lengths of regular polygons sides to find area is a normal thing. Before lesson 7, I would've written "not enough info" for the questions. Now however, I divide for angles in each mini right triangle, and use tangents to find the height, and multiply for area. Lesson 7 added another level of thought to the wonderful Unit 6.