Pre-AP Geometry Right Triangle Unit Daily Lessons

Tues-Wed, Jan 28-29

Objective: I can apply Pythagorean Theorem to solve problems, find triples, and apply converse.

I can demonstrate mastery over similarity and dilation.

* Warm-up: find missing side with Pythagorean Theorem. Explain why these triangles are congruent.
* Answers to warm-up; use to teach/learn about Pythagorean Theorem, converse, and triples.
* Answers to review on desk. Go over a few. Answer questions.
* Similarity Unit Test – Part B
* HW #6 – p 500-1: 1-10, 13-18. Use Pythagorean Theorem and algebra to show work. On 13-18, show work to determine if triangle works in the PT Th (is a right triangle)

Thurs-Fri, Jan 30-31

Objective:. I can discover, prove and apply 30-60-90 and 45-45-90 shortcuts. I can understand what it means to simplify radicals and use rules to simplify.

* Warm-up: add to HW problems from old textbook… 3 from 9.1, 3 from 9.2
* Take a grade on HW #6 – 4 pts
* All classes, deal with make-ups.
* Answers to HW on screen, self-check. Answers to warm-up shared.
* Notes and practice: how to tell if a triangle is acute or obtuse. If c^2 is too big, then obtuse; if c^2 is too small, then acute.
* Prove and apply Pythagorean shortcuts for 30-60-90 and 45-45-90 triangles.
* Practice a few problems using shortcuts.
* Notes and Practice 9.2 – simplifying radicals. See attachment on daily blog.
* HW #7: p 507-8: 1-8, simplifying radicals 1-14. 17 (show work)

Quiz Fri-Mon, Feb 7-10, 20 pts

Mon-Tues, Feb 3-4

Objective: I can apply Pythagorean Theorem in context to solve problems (including shortcuts). I can simplify radicals by rationalizing a denominator.

* Warm-up: p 499 – proof of Pythagorean Theorem, p 503: 23, p 502: 15-18 is it acute or obtuse. Write up C-88 – 89 on p 498-500.
* Take a grade on attempt at HW #7 – 4 pts
* Answers to warm-up. Answers to homework. Go over in detail. #8. Use #7 to learn about the 3-D Pythagorean Theorem (described in blog post).
* Go back over shortcuts. Make sure everyone can use the sketches. Which side do I know?
* Notes and practice – rationalizing the denominator when finding missing sides using 30-60-90 and 45-45-90.
* In class practice worksheet over 30-60-90 and 45-45-90 (2-13)
* HW #8 – p 510: 1-4, 6, 11-12, p 502: 9-12. 3rd period leave out 11-12 on 512, do radicals 1-14. (in most classes, go over the coordinates in the circle; the tree problem)

Wed-Thurs, Feb 5-6, 2020

Objective: I can use Pythagorean Shortcuts to find missing sides, including rationalizing the denominator. I can derive and apply the distance formula to find lengths of segments in the coordinate plane.

* Warm-up: note-building activity – what is this unit about? On the board are 4 triangles, find their area (the first two use PT, the last two use shortcuts).
* Take a grade on HW #8 – 4 pts (6th period is HW 7 and HW 8)
* Go over warm-ups.
* Go over HW (show on screen, show details)
* Investigation and notes – (p 516) distance formula (notes attached on blog post)
* HW #9 – p 512: 12,14, p 517: 1-3,5,7

Friday-Monday, February 7-10, 2020

Objective: I can demonstrate mastery over Pythagorean Theorem, converse, and basics of special right triangles. I can write and interpret equations of circles.

* Warm-up: find the length of the radius of a circle given center and endpoint on circle. Practice basics of two shortcuts. Square real world vs not.
* Answers to HW/ questions/ special attention to work shown.
* Investigation and Notes – Circle Equation and its relationship to PT & Distance Formula
* Notes and practice – equation of a circle (x-h)2 + (y-k)2 = r2. How it comes from the distance formula. How it is like y=mx+b. How it is different. Find info about circles. Write an equation.
* HW #10: p 520: 1-7 (in 0B add problem 9, completing the square)
* Quiz 10.1-3 – 20 pts
* ACTM announcements

Tues-Wed, Feb 11-12, 2020

Objective: I can discover, understand, and apply sine, cosine, and tangent ratios in right triangles to find unknowns.

* ACTM announcements
* Investigation on board (30-60-90 leading to trig ratios)
* Take a grade on HW #9a & b – 5 pts
* Answers to warm-up/ answers to HW/ questions
* Investigation 12.1 – Right Triangle Trigonometry
* Examples. How to find trig ratios with your calculator.
* Try this: apply trig ratios to solve problems.
* HW #10: pp 588-9: 1-20,22
* Make-up issues on quizzes. Placement issues. Collect money for ACTM contest.

Unit Test – Fri-Mon, Feb 15-18 – Right Triangles and Trigonometry – 80 pts

Thurs-Fri, Feb 13-14

Objective: I can apply trigonometric ratios in real world situations to find unknowns in right triangle models.

* ACTM Announcements
* Warm-up: equation of a circle, trig ratio definitions, is the triangle acute, obtuse or right
* Any grades behind from absences on HW #9&10
* Answers to warm-up shared, then answers to HW #11 given, with quick explanations of how to do each part, questions answered.
* Demonstration: what is angle of elevation and angle of depression? How are they the same? How are they different? What mistake to avoid? Try example on p 590.
* In class work: pp 591-2: 10-13, 14-16, self check (old book: p 628: 1-5, p 496: 1-8)
* Pass out quizzes on B day.
* B day HW #11a is p 528: 1-8. No homework for A day.

Unit Test over Right Triangles and Trig – 80 pts – Feb 21-24.

Tues-Wed, Feb 18-19

Objective: I can apply skills and concepts related to right triangles with mastery.

* ACTM announcements; test announcement. Look at topic list, particularly area.
* Warm-up: areas of 3 triangles
* Take a grade on HW #11 – 6 pts
* Go over HW #11 and warm-ups in detail, particularly circle problem.s
* Work in class with partner on review worksheet. Self-check.
* Return first quiz to use to study for test.
* Unit Review HW #11b – p 528: 1-8, 10, 14, 15, 18, 23, 25, 28, pp 613-4: 1-6, 16-18, p 507: 17-18.
* Study session for ACTM during advisory on Friday.

Unit Test Fri-Monday, Feb 21-24, 80 pts.

Thurs, Feb 20 – A day only

Objective: I can apply skills related to right triangles.

* Warm-up – triangle areas (done on previous B day)
* Practice quizzie and grade
* Go over HW #11/ questions/ fix for Monday
* TIC TAC TOE review
* Equations of circles and distance formula
* Pass out review topics. How to study for test.

Friday-Monday, Feb 21-24

Objective: I can demonstrate mastery over right triangles.

* Work on TIC TAC TOE and self-check
* Take a grade on review.
* Questions?

Unit Test – 78 pts NO HOMEWORK