Pre-AP Geometry Right Triangle Unit Daily Lessons

Thurs-Fri, Jan 24-25, 2019

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.
* Any make-up on HW 5?
* Answers to warm-up; use to teach/learn about Pythagorean Theorem, converse, and triples.
* Similarity Unit Test – Part B
* HW #6 – p 500-1: 1-11, 13-20. Use Pythagorean Theorem and algebra to show work. On 13-18, if the triangle is not a right triangle, say if it is acute or obtuse. Show work.

Mon-Tues, Jan 28-29, 2019

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.

* Contest announcements (RCML and ACTM)
* Warm-up: Find missing sides using Pythagorean Theorem (the triangles are all 45-45-90 or 30-60-90).
* Take a grade on HW #6 – 4 pts
* 1st period – view tests. All classes, deal with make-ups.
* Answers to HW on screen, self-check. Answers to warm-up shared. Use the answers to 2-3 and 5-6 on warm-up to establish a pattern. What would happen if I added a 4th problem? (Inductively figuring out 30-60-90 and 45-45-90 shortcut.)
* Prove and apply Pythagorean shortcuts for 30-60-90 and 45-45-90 triangles.
* Practice a few problems using shortcuts.
* Notes and Practice 10.2 – simplifying radicals. Create visual on dot paper. See attachment on daily blog.
* Prove Pythagorean Theorem with similar right triangles. (only done in 1st and 2nd)
* HW #7: p 507-8: 1-13, 17 (do not use Pyth Th). Handout Exercises 1-14, 17. Show work to simplify radicals

Wed-Thurs, Jan 30-31, 2019

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

* Warm-up: p 503: 21,23,25 (6th – do dot paper activity)
* Take a grade on attempt at HW #7 – 4 pts
* Answers to warm-up. Answers to homework. Go over in detail. #8, 10 and 17 are important
* Go back over shortcuts. Make sure everyone can use the sketch template. Which side do I know?
* 3-D Pythagorean Theorem example (#14) and notes – a2 + b2 + c2 = d2
* 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 (2-10)
* HW #8 – p 510: 1-4, 6, 11

Quiz Tues-Wed over 10.1-3 (see blog post for hints) – about 30 pts

Fri-Mon, Feb 1-4, 2019

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

Tues-Wed, Feb 5-6, 2019

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
* Quiz 10.1-3 – 24 pts
* ACTM announcements

Thurs-Fri, Feb 7-8, 2019

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 #10 – 4 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 #11: pp 588-9: 1-20,22
* Make-up issues on quizzes. Will view next time.

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

Mon-Tues, February 11-12

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
* Pass out quizzes. Pass out test topics.
* Review Assignment (HW #12) due next time: p 5528:1-8, 14-15, 18, 23, 25, 27-28 (on 28 give center and radius only), p 613; 1-6, 9-12, 16-18.

Unit Test over Right Triangles and Trig – 80 pts – Feb 15-18 (Fri-Mon)

Wed-Thurs, Feb 13-14, 2019

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 #12 – 6 pts
* Go over HW #12 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.
* Announce study sessions

Unit Test Fri-Monday, Feb 15-19 – 76 pts

Fri-Mon, Feb 15-19, 2019

Objective: I can demonstrate mastery over right triangles and trig ratios.

* Unit Assessment – 78 pts

NO HOMEWORK