Welcome to Geometry Honors!

On the following pages you will find your summer assignment for the upcoming school year.

Note to the Student:

The purpose of this assignment is to review topics that are essential to your success in Geometry Honors. It will be assumed that all the topics covered in this assignment, and in your previous math courses, have been mastered and will not need explanation as we use them in the Geometry Honors course.

• The packet is to be completed and is due on the first day of school. You may print this packet or complete it electronically on your iPad using Notability.

• Follow all directions given on each page to receive credit (specifically, showing work and where to write your answers). No work = No credit.

• The assignment will be collected for a grade (Note: the grade will be based on completion).

• To help you review and complete your packet, there are videos corresponding to sections of the packet. These videos may be accessed on any web-connected device with any web browser.

• Each video shares the identical title to the corresponding section in the summer packet. For the Khan Academy videos, you will find practice problems on the same webpage so that you can practice and get feedback.

I hope you have a great summer!

Sincerely,

Mrs. Katie Chappell

Chappell.katie@cchs.us

Word Problems

Standard: MA.912.AR.2.1

For the given word problems, write and solve the linear equation. Show all work. Box all answers.

Click HERE and HERE to watch helpful videos.

1. The perimeter of a triangular camping area is 38 feet. If one side is x feet, and the second side is 2 feet more than the first side, and the third side is 3 feet more than the first side, write and solve an equation to find the length of the shortest side.

2. The youth group is collecting canned goods for a food drive. They collect 15 cans per day and start with 45 cans. Write an equation to represent the total number of cans $C(d)$ after d days, then find how many cans they'll have after 12 days.

3. A rectangular pool's length is 3 feet longer than its width. If the perimeter of the pool is 60 feet, write an equation to find the width of the pool. What are the dimensions of the pool?

4. A delivery truck makes three stops. At the first stop, it delivers x packages. At the second stop, it delivers three times as many packages as the first stop, and at the third stop, it delivers 50 more packages than the first stop. If the truck delivered 650 packages in total, how many packages were delivered at the first stop?

Quadratic Formula

Standard: MA.912.AR.3.1

Solve each quadratic. You may use factoring, completing the square or the quadratic formula. Show all work. Box all answers.

Click HERE to watch helpful videos.

1. $2x + x^2 = 15$

2. $-x^2 - 24 = -11x$

3. $4x^2 + 8x - 5 = 0$

4. $3x^2 + 12x = 24$

Area of a Circle

Standard: MA.7.GR.1.4

For each of the following word problems, find the area in terms of pi and the area rounded to the nearest hundredth (Using $\pi \approx 3.14$). Show all work. Box all answers.

Click HERE to watch a helpful video.

1. A round pizza has a radius of 8 inches. What is its area?

2. A circular helipad has a diameter of 40 feet. What is its area?

3. The wheel of a bicycle has a diameter of 24 inches. What is the area of the wheel?

4. A circular garden has a radius of 6 feet. What is its area?

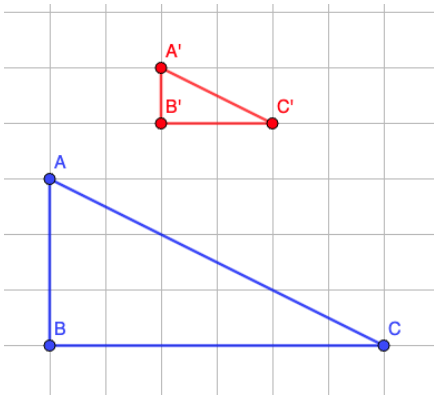
Dilation

Standard: MA.8.GR.2.2

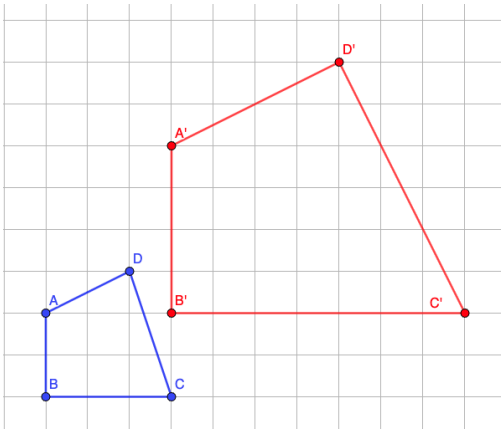
Provide the scale factor. Show all work. Box all answers.

Click HERE to watch a helpful video.

1. Triangle A'B'C' is the image of triangle ABC under a dilation. What is the scale factor of the dilation?



2. Quadrilateral A'B'C'D' is the image of quadrilateral ABCD under a dilation. What is the scale factor of the dilation?



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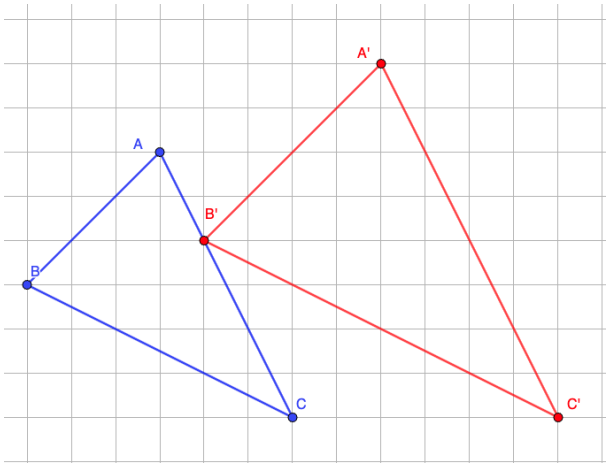
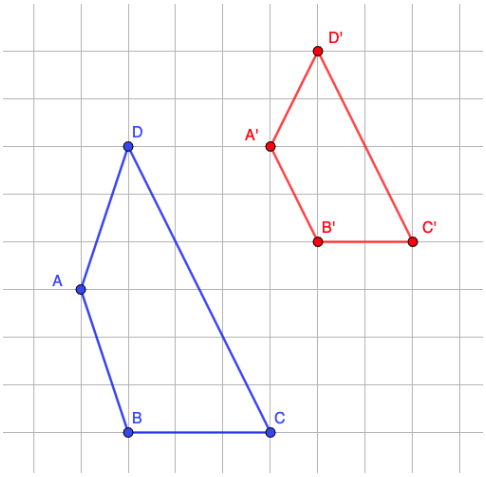


4. Quadrilateral A'B'C'D' is the image of quadrilateral ABCD under a dilation. What is the scale factor of the dilation?



Similar Triangles

Standard: MA.8.GR.2.4

Use similar triangles to solve the word problems. Show all work. Box all answers.

Click HERE to watch a helpful video.

1. A 6-foot-tall person casts a shadow that is 10 feet long. At the same time, a nearby flagpole casts a shadow that is 35 feet long. How tall is the flagpole?

2. A ladder leaning against a wall forms a triangle with the ground and wall. If the ladder is 13 feet long and reaches 12 feet up the wall, a shorter ladder that leans with the same angle reaches 9 feet up the wall. How long is the shorter ladder?

3. A tall building is reflected in a nearby pond. If a tree that is 12 feet tall casts a reflection of 9 feet in the water, and the building's reflection is 30 feet long, how tall is the building?

4. A surveyor wants to determine the height of a mountain. They measure a 10-foot pole casting a 4-foot shadow. At the same time, the mountain casts a shadow of 200 feet. How tall is the mountain?

Pythagorean Theorem

Standard: MA.8.GR.1.1

Write and solve the equation for the word problems involving right triangles. Show all work. Box all answers.

Click HERE and HERE to watch helpful videos.

1. A rectangular garden has a diagonal path that measures 13 meters. If the width of the garden is 5 meters, what is the length of the garden?

2. A ladder is leaning against a wall. The foot of the ladder is 6 meters from the wall, and the top of the ladder reaches 9 meters up the wall. How long is the ladder?

3. A flagpole has a support wire attached to its top. The wire is anchored to the ground 8 feet away from the base of the pole. If the wire is 17 feet long, how tall is the flagpole?

4. A drone flies 9 meters straight up into the air, then moves 12 meters horizontally. How far is the drone from its starting point?

Distance

Standard: MA.8.GR.1.2

Find the distance between the points on each graph. Use the pythagorean theorem. Show all work.Round all answers to the nearest hundredth. Box all answers.

Click HERE to watch a helpful video.

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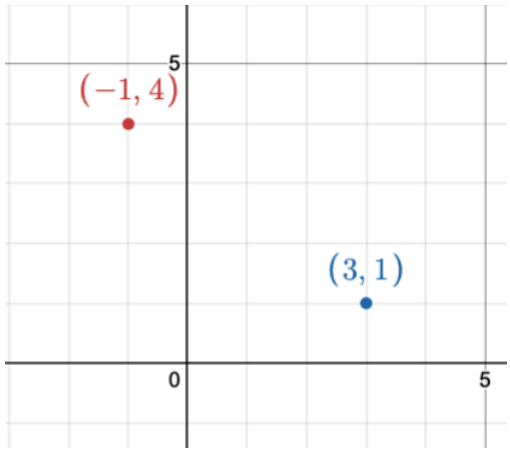

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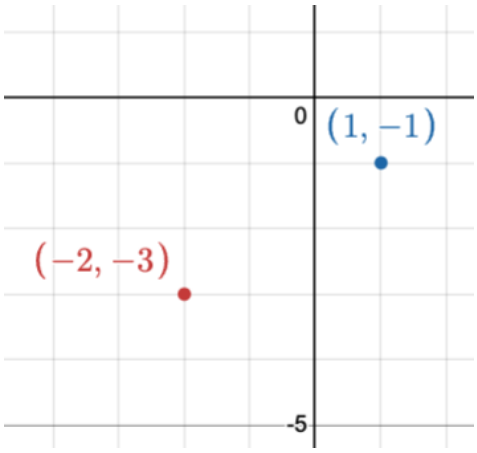

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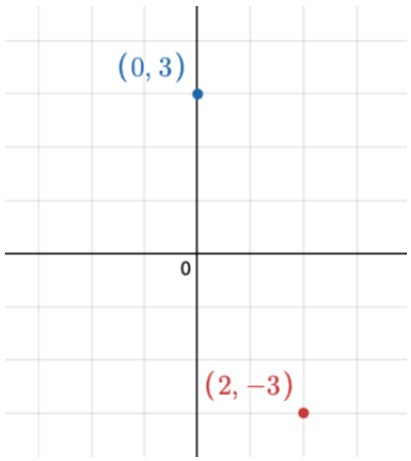

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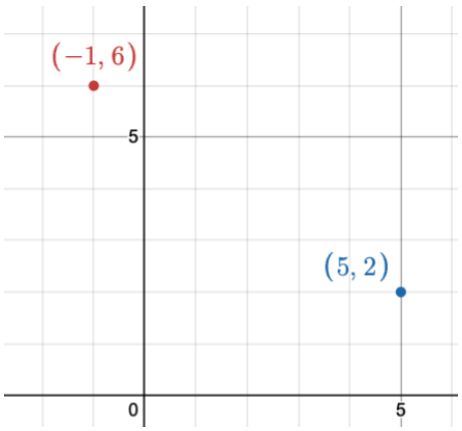

Area of Trapezoids

Standard: MA.7.GR.1.1

Find the area of each trapezoid. Show all work. Box all answers.

Click HERE to watch a helpful video.

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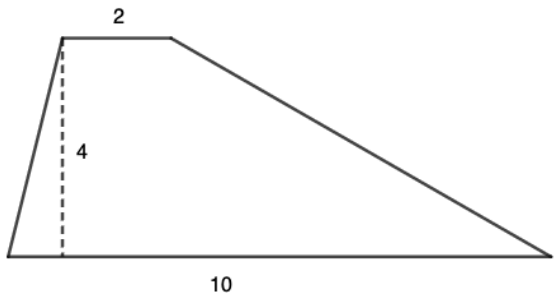

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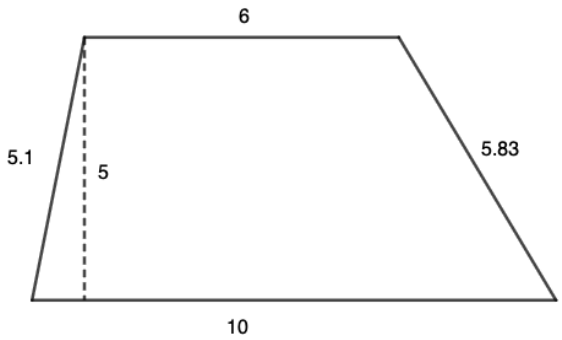

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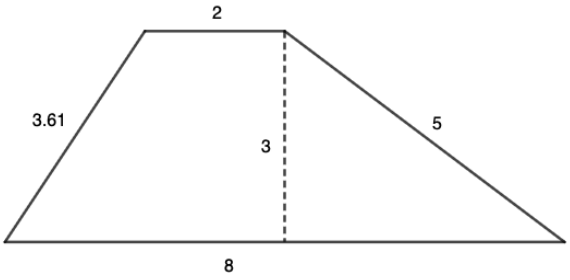

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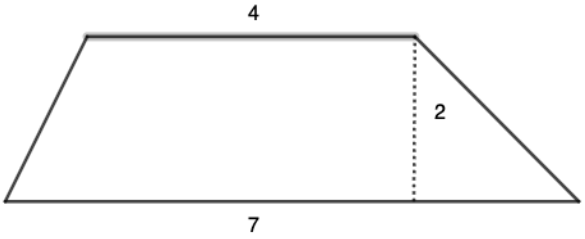

Parallel Lines

Standard: MA.912.AR.2.3

Write the equation for a line that is parallel to the given line and goes through the given point. Show all work. Box all answers.

Click HERE and HERE to watch a helpful video.

1. line: $y = 3x + 10$, point: (1,4)

2. line: $y = -2x + 4$, point: (3,-1)

3. line: $y = \frac{2}{3}x$, point: (6,-2)

4. line: $y = \frac{5}{2}x - 3$, point: (-2, 2)

Perpendicular Lines

Standard: MA.912.AR.2.3

Write the equation for a line that is perpendicular to the given line and goes through the given point. Show all work. Box all answers.

Click HERE and HERE to watch a helpful video.

1. line: $y = 4x - 2$, point: (8,3)

2. line: $y = -\frac{3}{2}x + 7$, point: (9, -4)

3. line: $y = \frac{2}{5}x - 3$, point: (-4, -5)

4. line: $y = x + 3$, point: (-5, 2)