

CC INTEGRATED | ETOOLS

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General Tools

Algebra Tiles (CPM)

This tutorial describes how to use the Algebra Tiles including additional features.

Click on the link below to access eTool.

[Algebra Tiles \(CPM\)](#)

1. The top bar has three main parts: Pen & Paper Icon, '?' Icon, and the Arrow Icon.

1. Select the Pen & Paper Icon to:

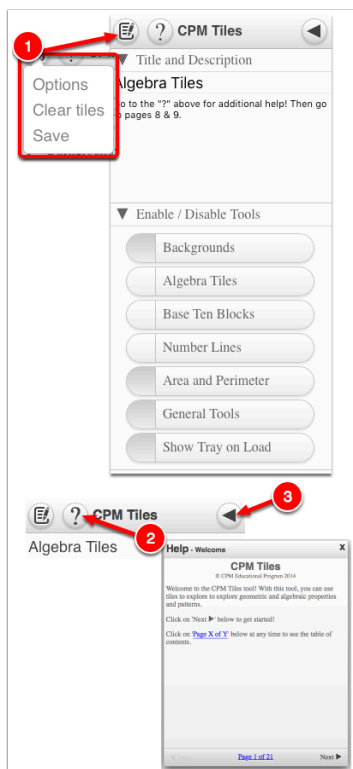
Options - Add Title and Description and Enable/Disable Tools.

Clear Tiles - This will remove all the tiles that are in the tile area.

Save - This will save all the changes made.

2. Select the '?' icon for directions.

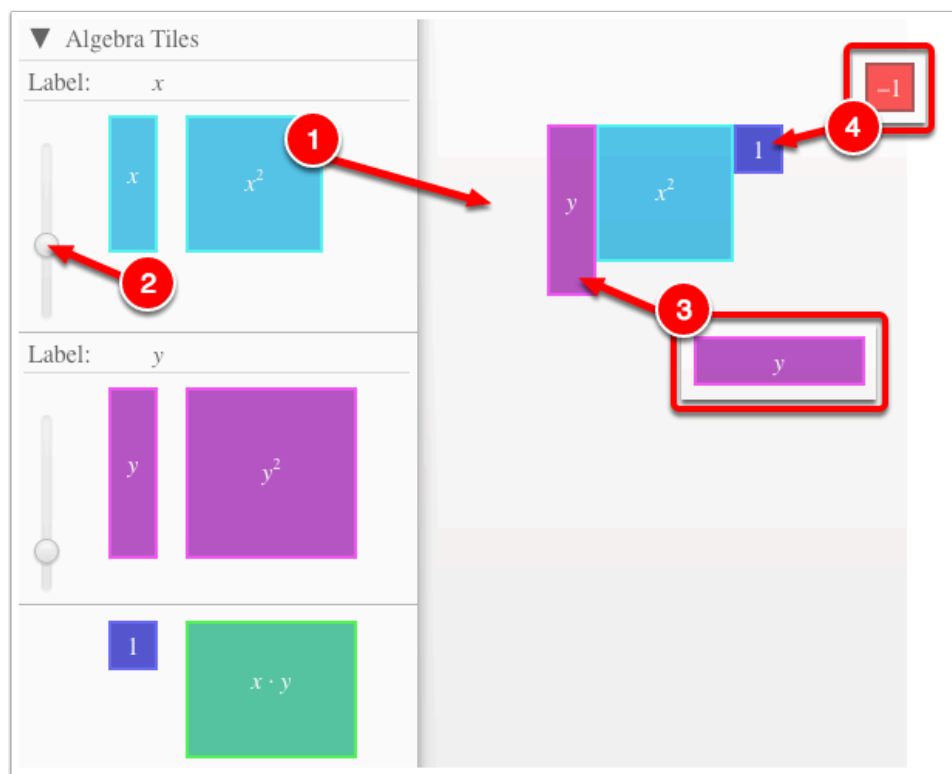
3. Select the Arrow Icon at the right to open and close the tray.



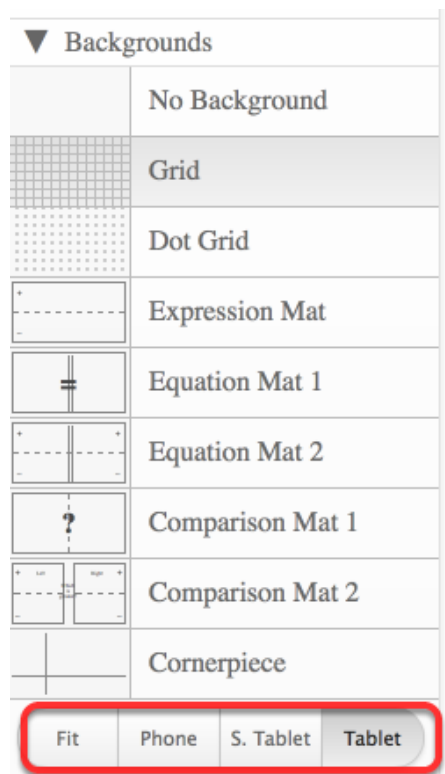
2. Drag tiles from the tray at the left to the display area at the right.

1. Select one of the tiles and drag it to the tile area.

2. Use the sliders in the tray to change the size of the tiles.
 3. Double click tiles to change orientation (horizontal/vertical).
 4. Click on a tile once to change the sign (+ -).
- Note: The color of the tile will turn to red for negative sign.

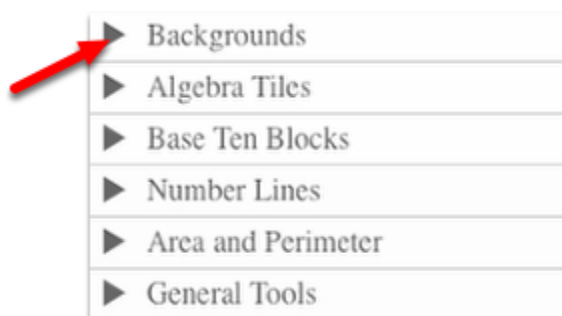


3. Choose from a variety of different mats. Also choose from a variety of sizes to fit on various devices.



4. Choose from a variety of different tiles:

- Click the arrow next to the tool to view/hide the options for each tool.



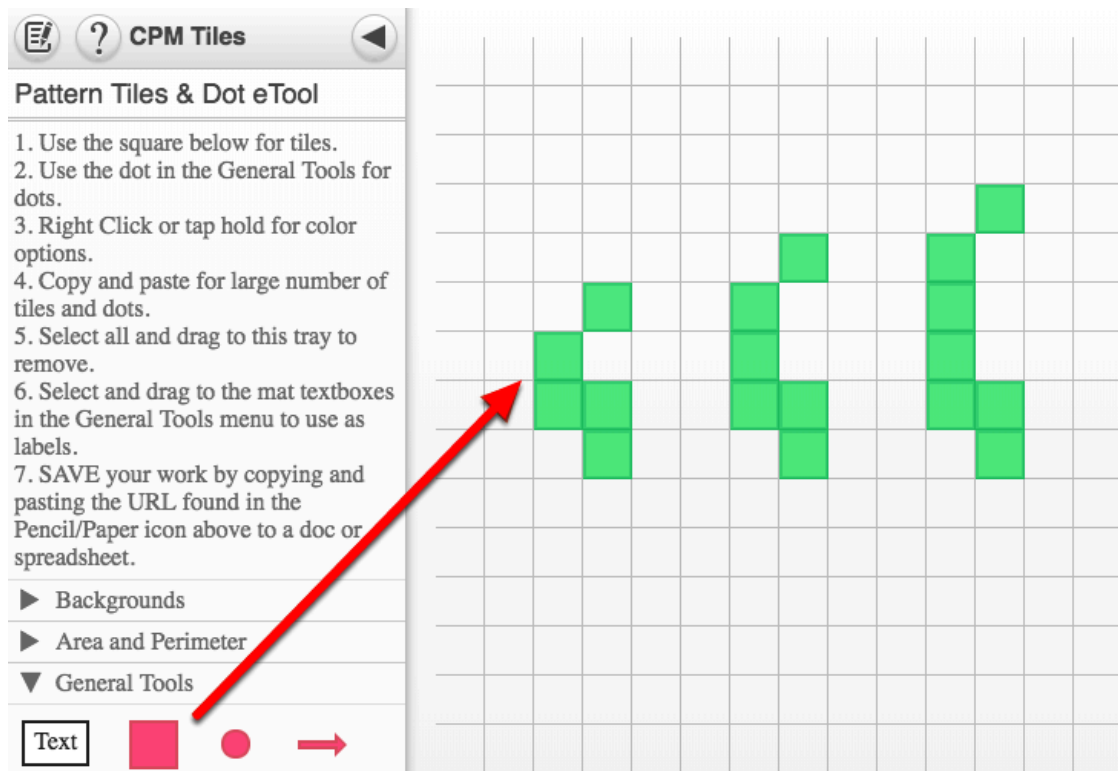
Pattern Tile & Dot Tool (CPM)

Click on the link below.

[Pattern Tile & Dot Tool](#)

1. Drag tiles from the tray to the Display area.

- Add tiles and copy and paste them to the display area.
- Select all tiles and drag to the tray to remove the tiles.



2. Textboxes and Dots

- Located in the General Tools
- Drag out and choose border/no border and color.
- Double click to rotate.
- Click to add text.

CPM Tiles

Pattern Tiles & Dot eTool

1. Use the square below for tiles.
2. Use the dot in the General Tools for dots.
3. Right Click or tap hold for color options.
4. Copy and paste for large number of tiles and dots.
5. Select all and drag to this tray to remove.
6. Select and drag to the mat textboxes in the General Tools menu to use as labels.
7. SAVE your work by copying and pasting the URL found in the Pencil/Paper icon above to a doc or spreadsheet.

Backgrounds

Area and Perimeter

General Tools

Text

Rigid Transformations eTool (CPM)

This eTool will record the steps you create showing translation, rotation, and reflection.

Click on the first link for the eTool. Click on the video links to view the use of the eTool.

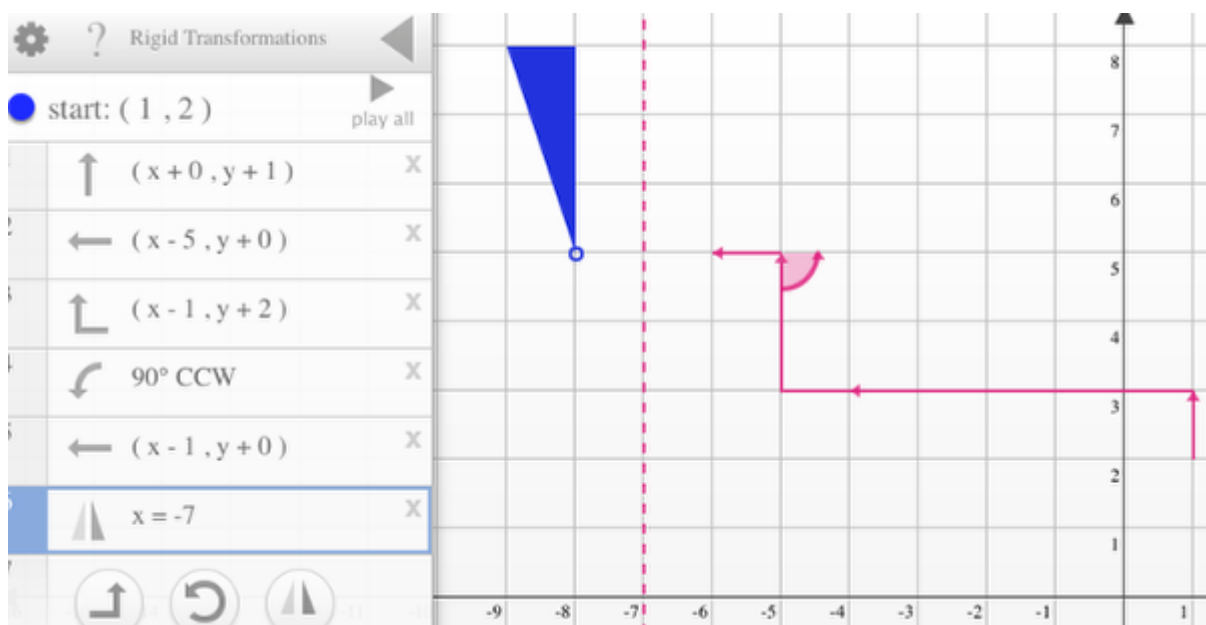
- Twelve games using the key lock are also available.
- This tool is designed so that teachers/students can create many more games.

[Rigid Transformations](#)

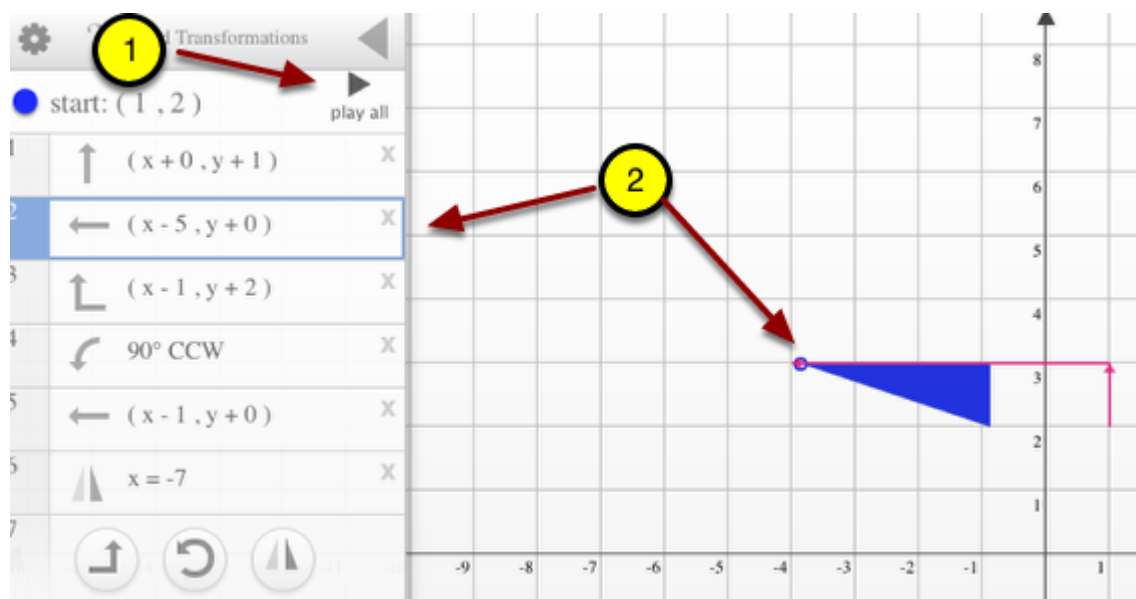
[Using RT Tool](#)

[Creating an RT Puzzle](#)

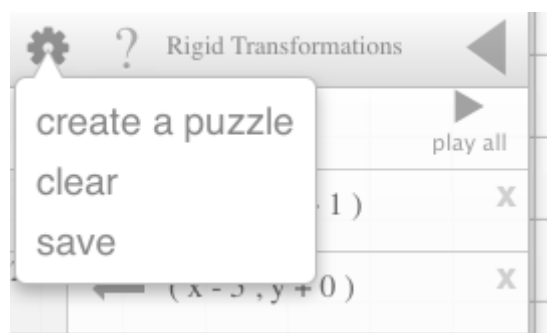
1. Steps are shown in the Tray at the left while the action occurs in the Display Area at the right.



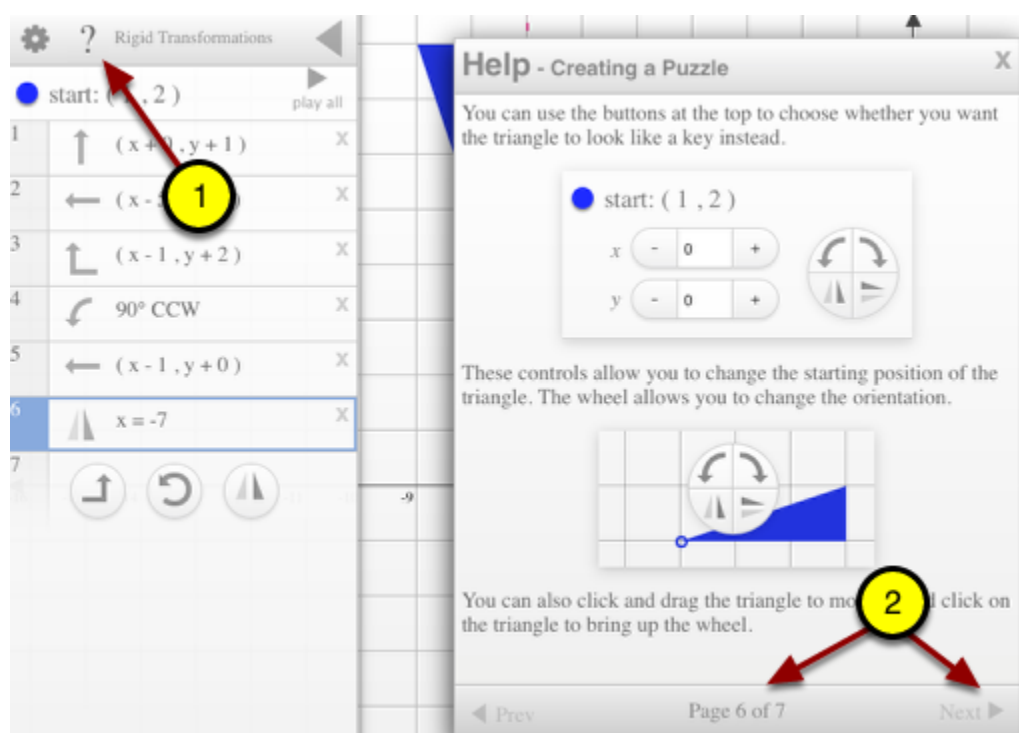
2. When playing, active steps are highlighted.



3. In the gear menu, you can create puzzles, clear, or save your projects.



4. Check the "?" for more help or watch the videos above.



Similarity Toolkit (CPM)

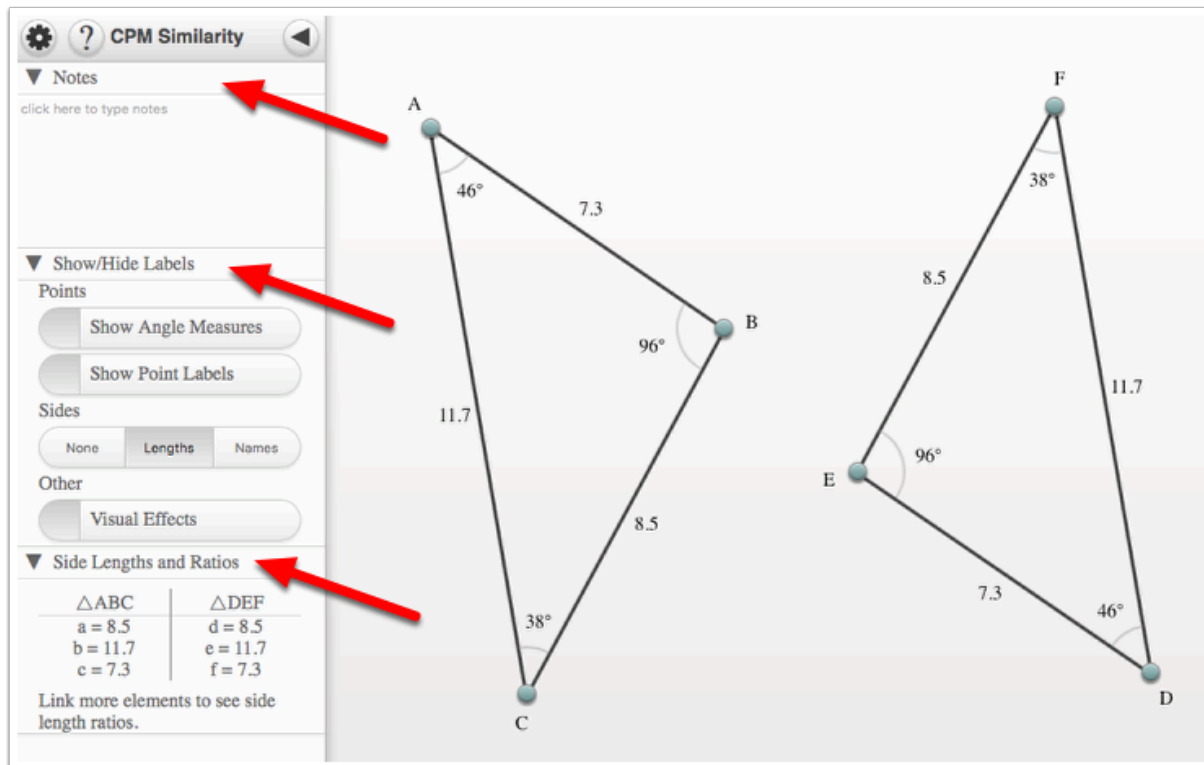
The similarity toolkit allows students to explore two triangles to determine congruency or similarity given SSS, SSA, SAS, AAA, etc.. Students show how two triangles are similar or congruent using rigid transformations (translation, rotation, and reflexion).

1. Click on the "Similarity Toolkit" link below. For additional help, click on the "Similarity Toolkit Video".

[Similarity Toolkit Video](#)

[Similarity Toolkit \(CPM\)](#)

2. Similarity Toolkit Basic Controls:



The screenshot shows the CPM Similarity Toolkit interface. On the left is a sidebar with various controls, and on the right are two triangles, $\triangle ABC$ and $\triangle DEF$, with their side lengths and angles displayed.

Controls in the sidebar:

- Notes:** A text area with the prompt "click here to type notes".
- Show/Hide Labels:**
 - Points:** A button labeled "Show Angle Measures".
 - Sides:** Three buttons: "None", "Lengths" (selected), and "Names".
 - Other:** A button labeled "Visual Effects".
- Side Lengths and Ratios:** A table comparing the side lengths of $\triangle ABC$ and $\triangle DEF$.

Triangle Data:

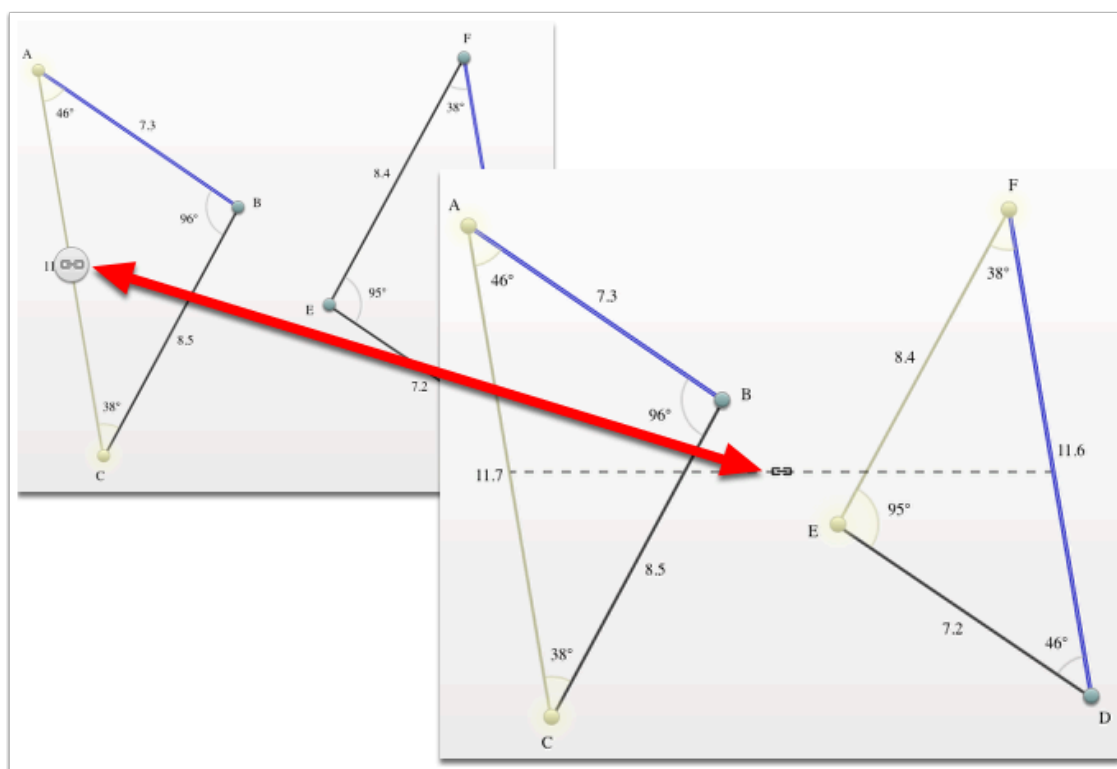
$\triangle ABC$	$\triangle DEF$
a = 8.5	d = 8.5
b = 11.7	e = 11.7
c = 7.3	f = 7.3

Link more elements to see side length ratios.

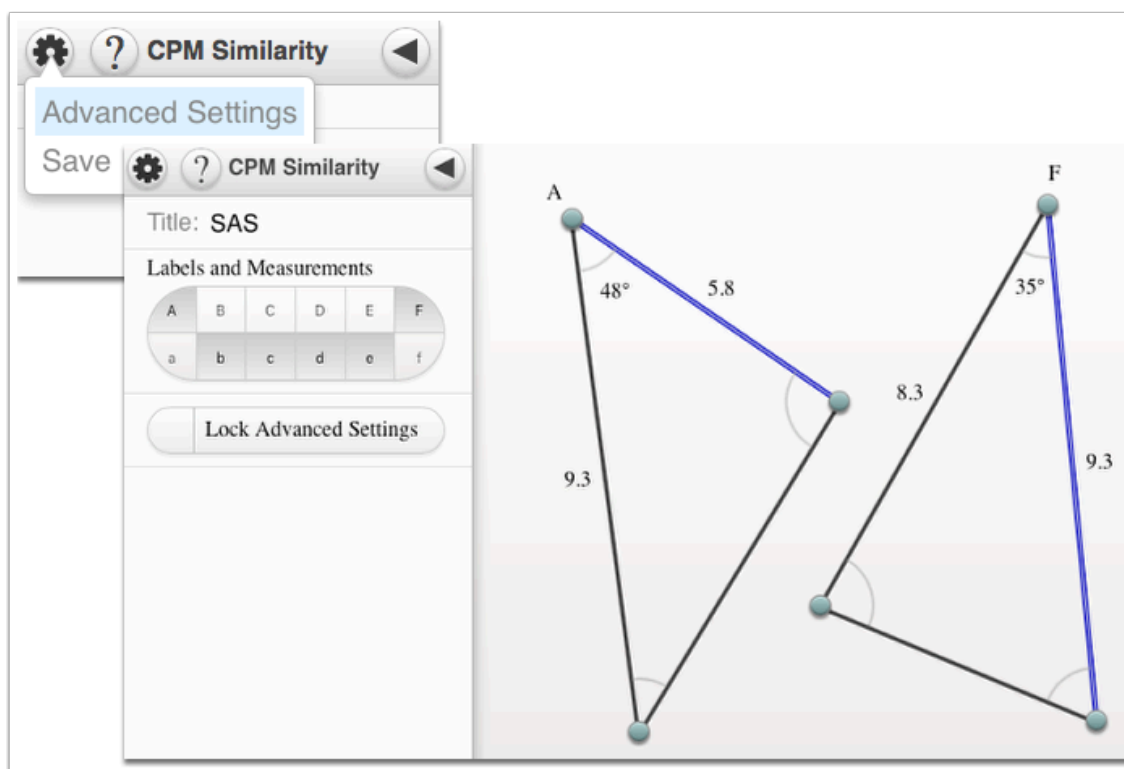
Triangle Details:

- $\triangle ABC$: Angles are 46° at vertex A, 96° at vertex B, and 38° at vertex C. Side lengths are AB = 7.3, BC = 8.5, and AC = 11.7.
- $\triangle DEF$: Angles are 38° at vertex F, 96° at vertex E, and 46° at vertex D. Side lengths are FE = 8.5, ED = 7.3, and FD = 11.7.

3. Indicate what sides/angles are similar/congruent.



4. By going to the Advanced Settings, indicate what angles and sides you want shown!



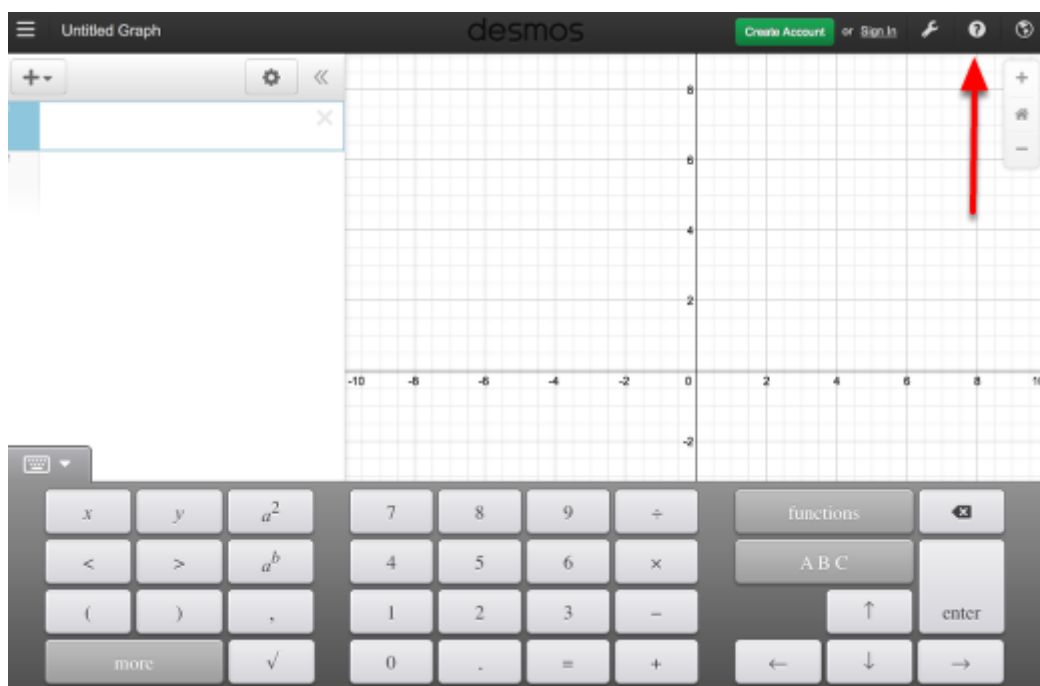
Desmos Graphing Calculator

This free graphing calculator allows students to create a free account to save all of their graphs, animations, and projects created.

Click on the "Desmos Graphing Calculator" link below.

[Desmos Graphing Calculator](#)

1. Click on all of the buttons. Try it out! For extra help, click the "?".



2. Click on the interactive tours below for help to create:

[Sliders](#)

[Tables](#)

[Advanced Tables](#)

[Restrictions](#)

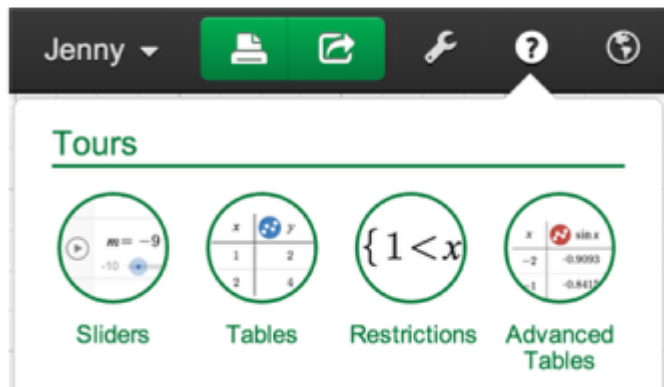
3. The interactive tours will NOT let you make a mistake! Try the links above!

Interactive Tours



Team Desmos
posted this on December 29, 2013 22:13

Try one (or all!) of the interactive tours to learn more about sliders, tables, restrictions, and more:



4. Need additional help? Watch these very short excellent videos!

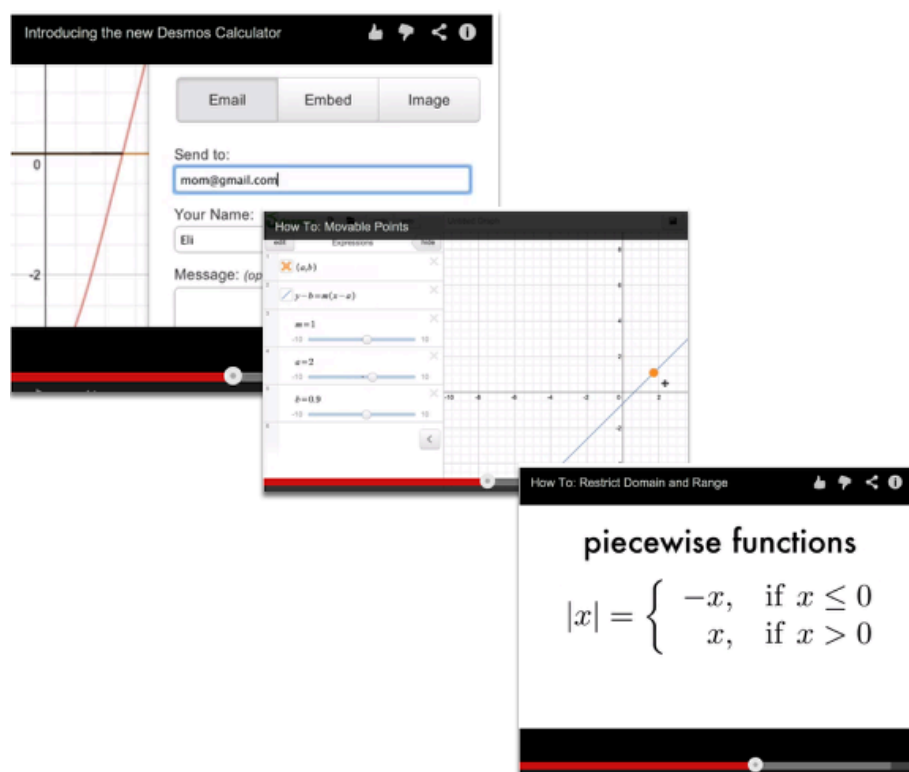
[Desmos Introduction](#)

[Moveable Points](#)

[Graph Inequalities](#)

[Piece-Wise Function](#)

5. The video links will help you with many of your graphing projects!



6. If you still need help, check out Desmos "Knowledge Base"

[Desmos Knowledge Base](#)



Chapter 1

INT1 1.1.2: 1-11 Lab A Student eTool (CPM)

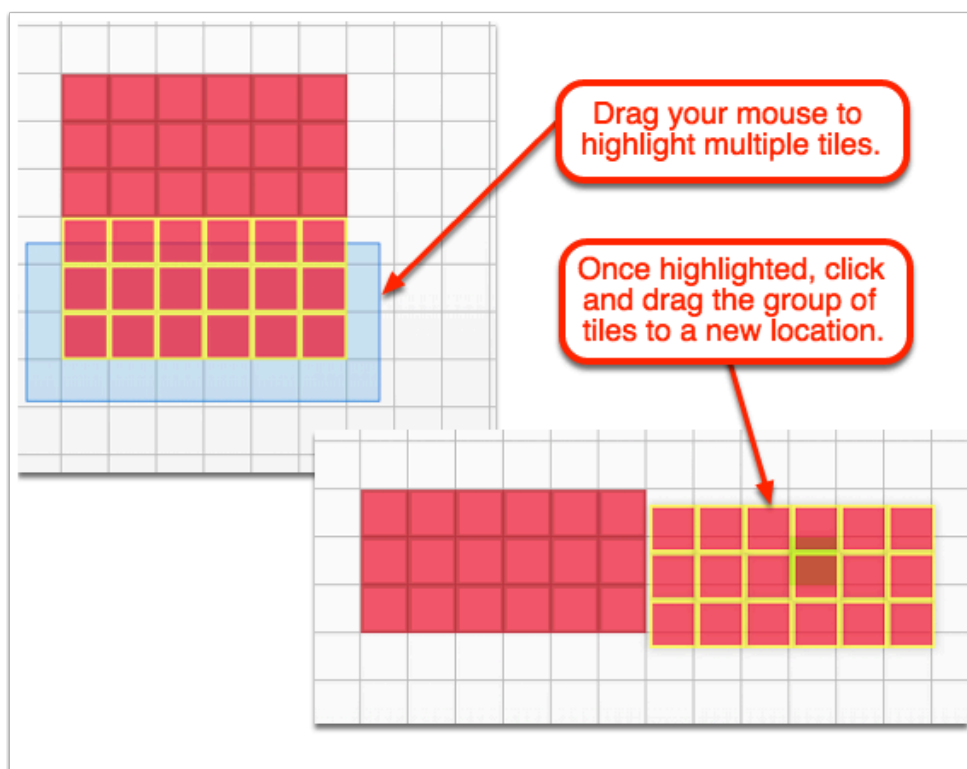
Click on the links below.

[1-11 Lab A Student eTool \(CPM\)](#)

1. Drag to build rectangular shapes recording the length and width.

The screenshot shows the CPM Tiles eTool interface. On the left is a sidebar with a title bar "CPM Tiles" and a back arrow. Below the title bar is the text "Int1 1-11 Lab A Student eTool". The main content area of the sidebar contains instructions: "Use the square tiles to find as many rectangular configurations as you can. Remember to record the length and the width of each rectangle you find. Assume that Perry's yard is big enough to accommodate any rectangular design you create and that it matters which dimension is the width and which is the length." Below this is a section titled "MOVING TILES" with the text "Drag each tile to a new location. Or click and drag about several tiles to drag to a new location." At the bottom of the sidebar is a "General Tools" section with icons for "Text", a red square, a red circle, and a red arrow. The main workspace is a large grid. A 5x5 rectangle of red square tiles is placed on the grid. A red callout box with a rounded rectangle border and a red arrow pointing to one of the tiles contains the text "Click to drag individual tiles."

2. Drag several tiles at once.



INT1 1.1.2: 1-13 Lab A, B, & C Student eTools (Desmos)

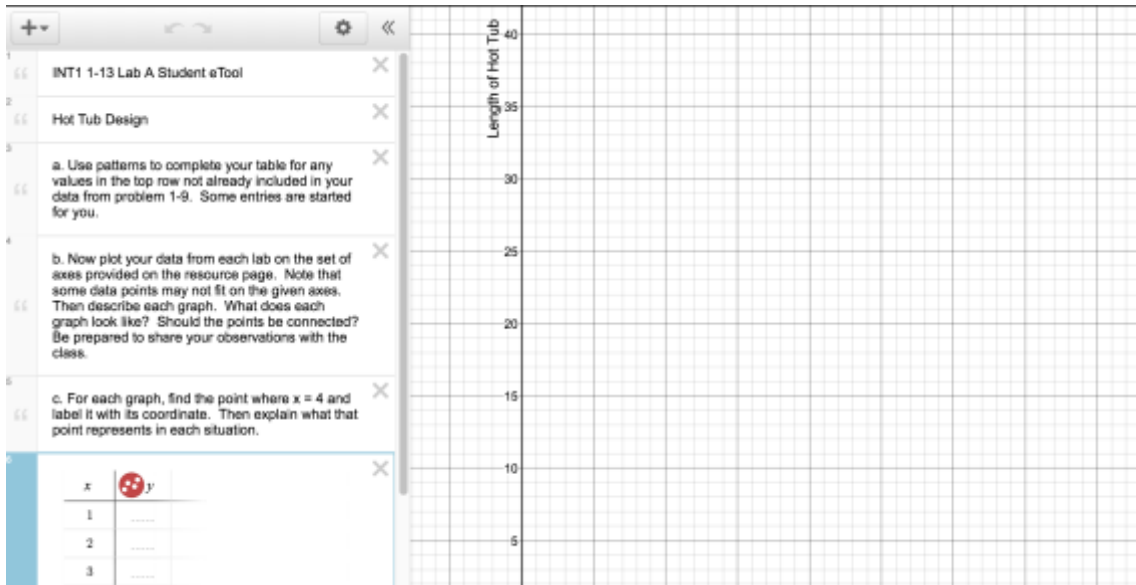
Click on the links below.

[1-13 Lab A Student eTool \(Desmos\)](#)

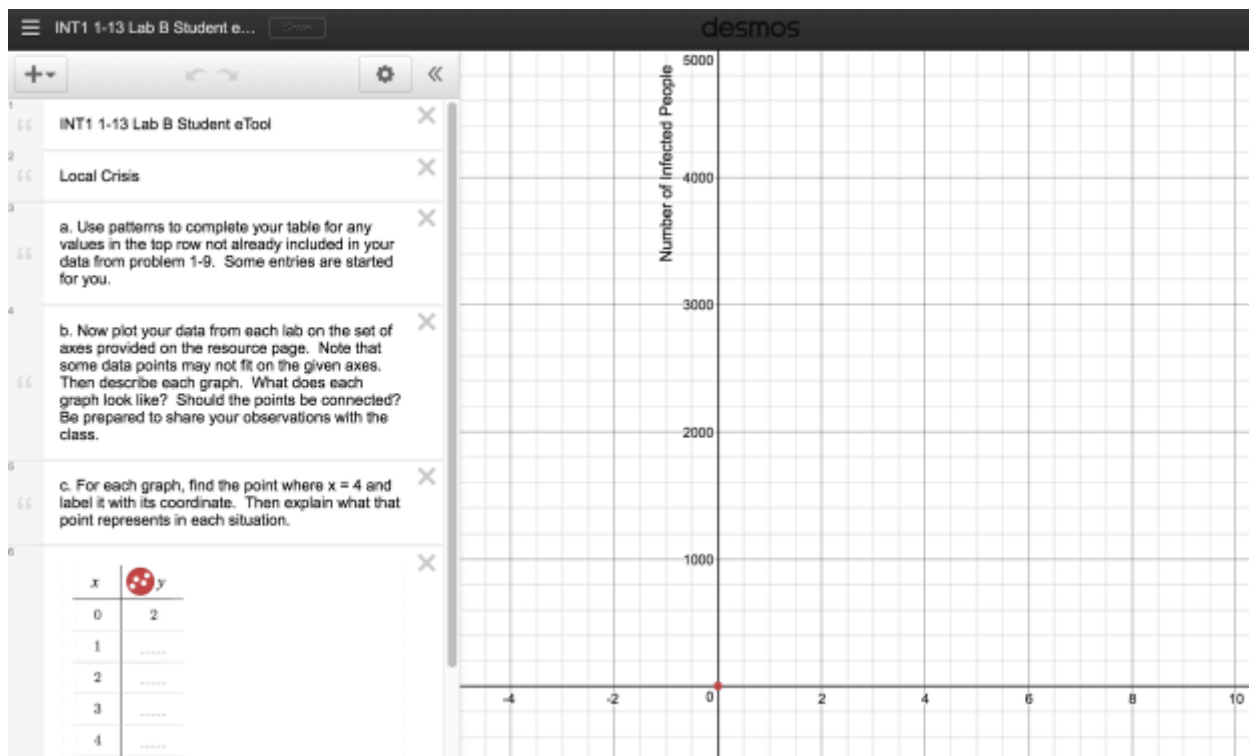
[1-13 Lab B Student eTool \(Desmos\)](#)

[1-13 Lab C Student eTool \(Desmos\)](#)

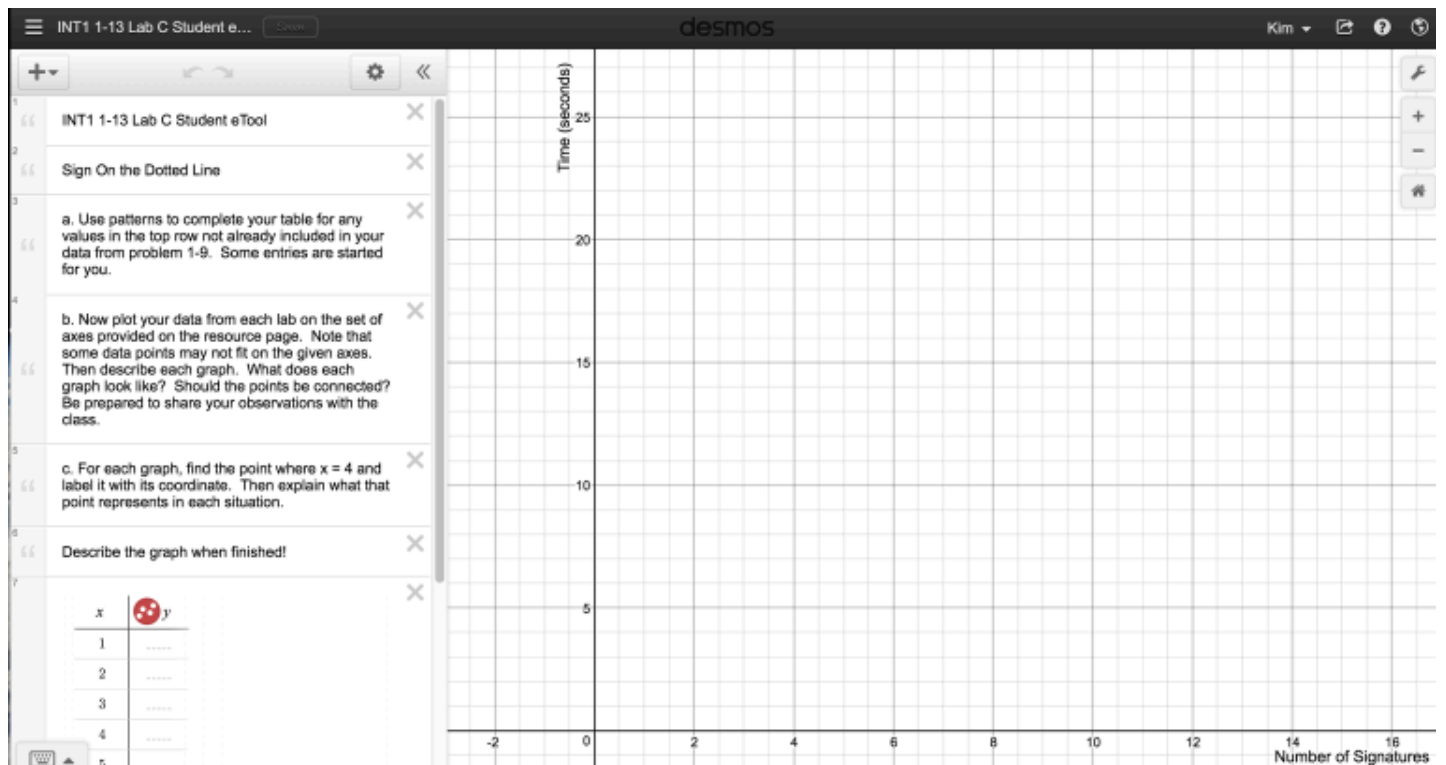
1. 1-13 Lab A Student eTool (Desmos):



2. Int1 1-13 Lab B Student eTool (Desmos):



3. Int1 1-13 Lab C Student eTool (Desmos):



INT1 1.1.3: 1-25 & 1-26 Student eTools (Desmos)

Click on the links below.

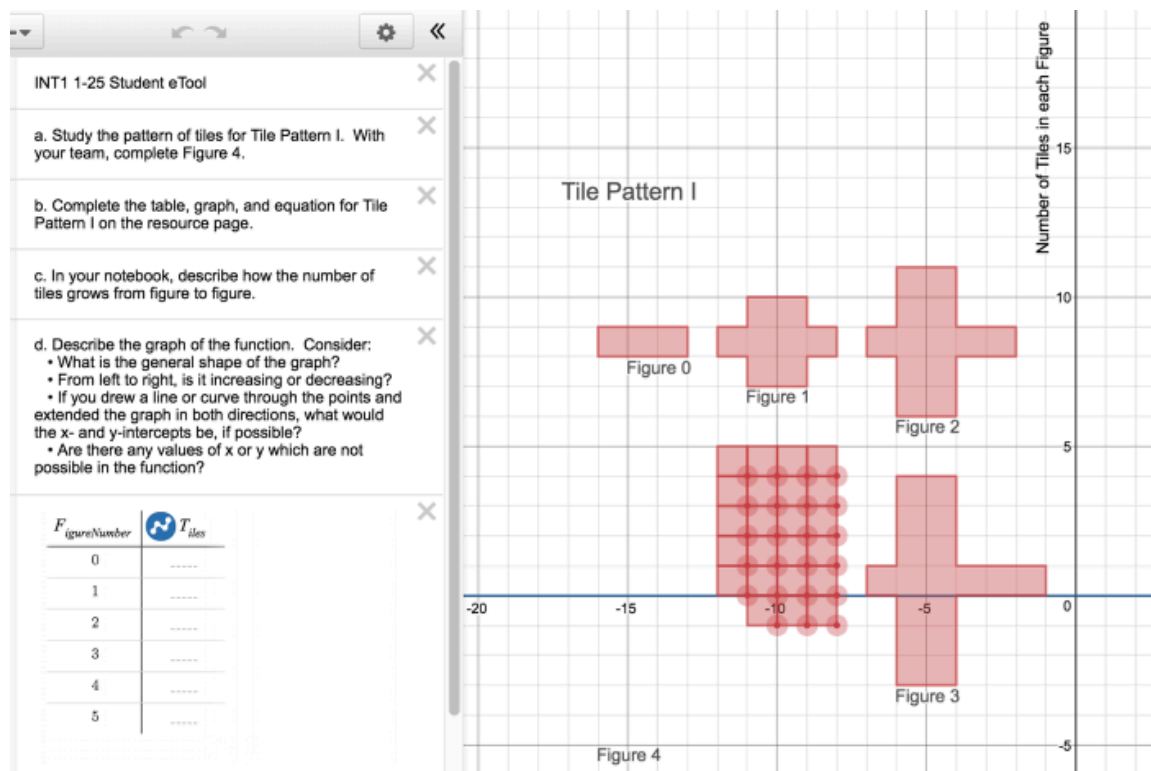
[INT1 1-25 Student eTool \(Desmos\)](#)

[INT1 1-26 Student eTool II \(Desmos\)](#)

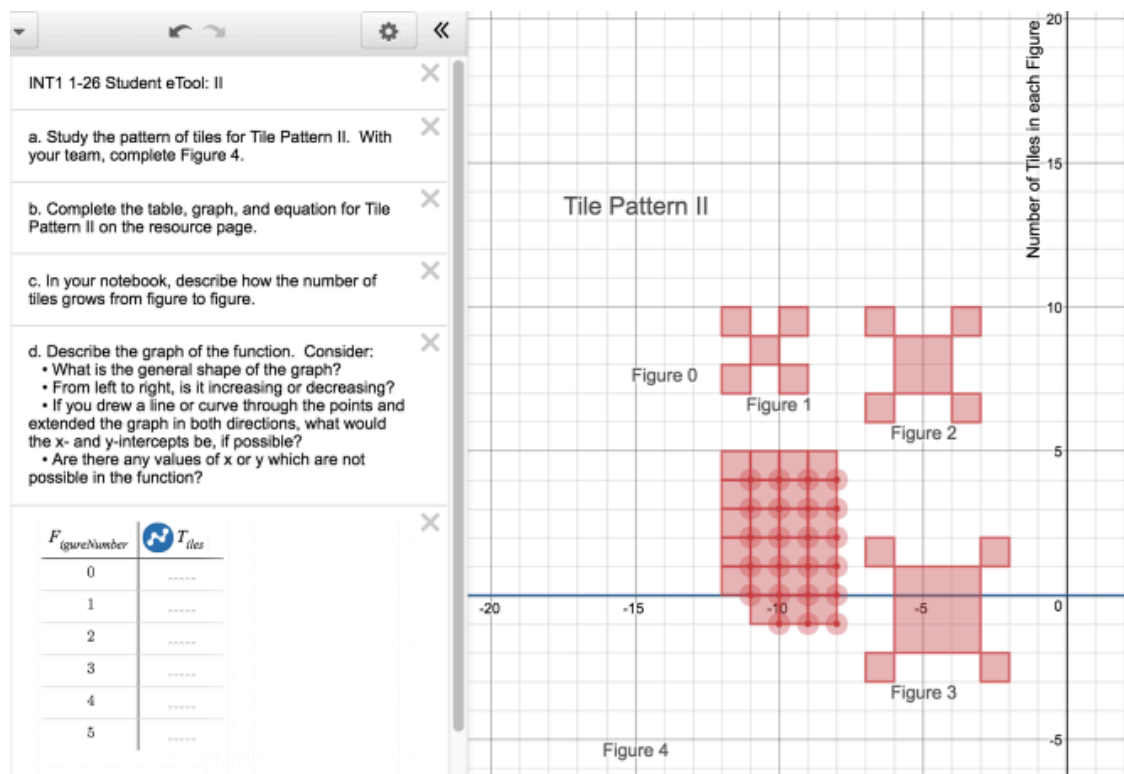
[INT1 1-26 Student eTool III \(Desmos\)](#)

[INT1 1-26 Student eTool IV \(Desmos\)](#)

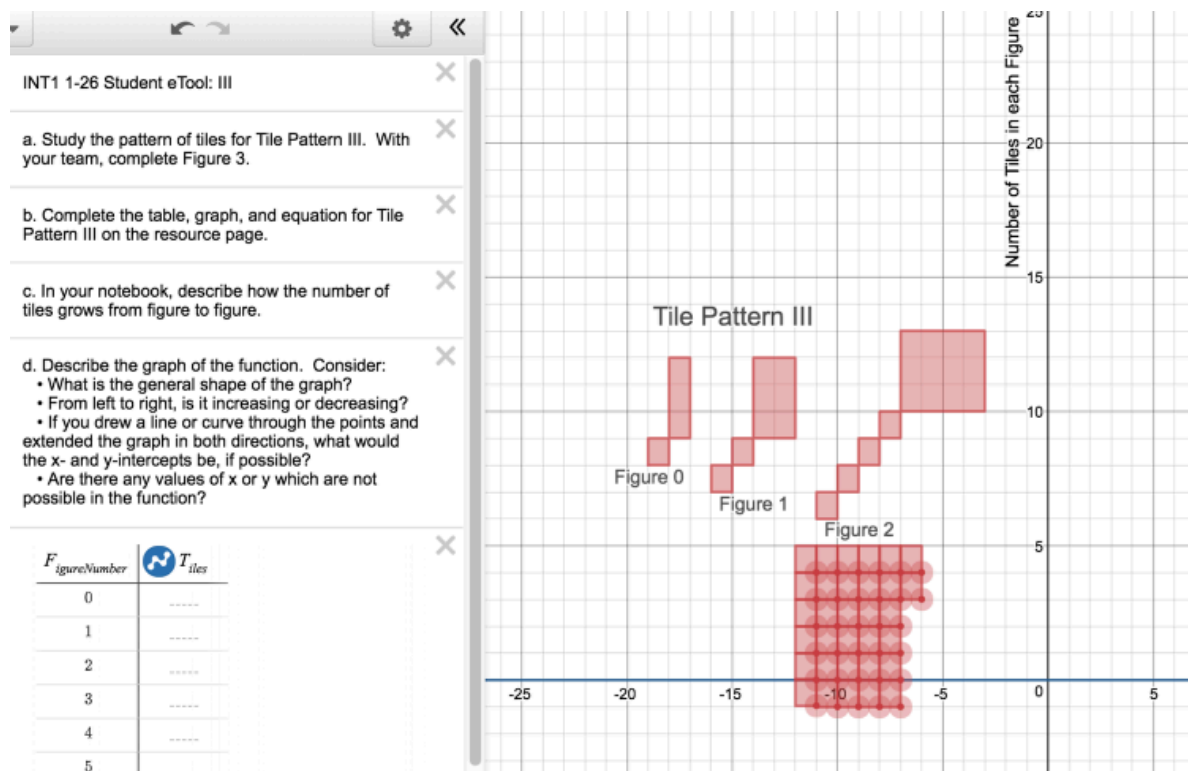
1. Int1 1-25 Student eTool:



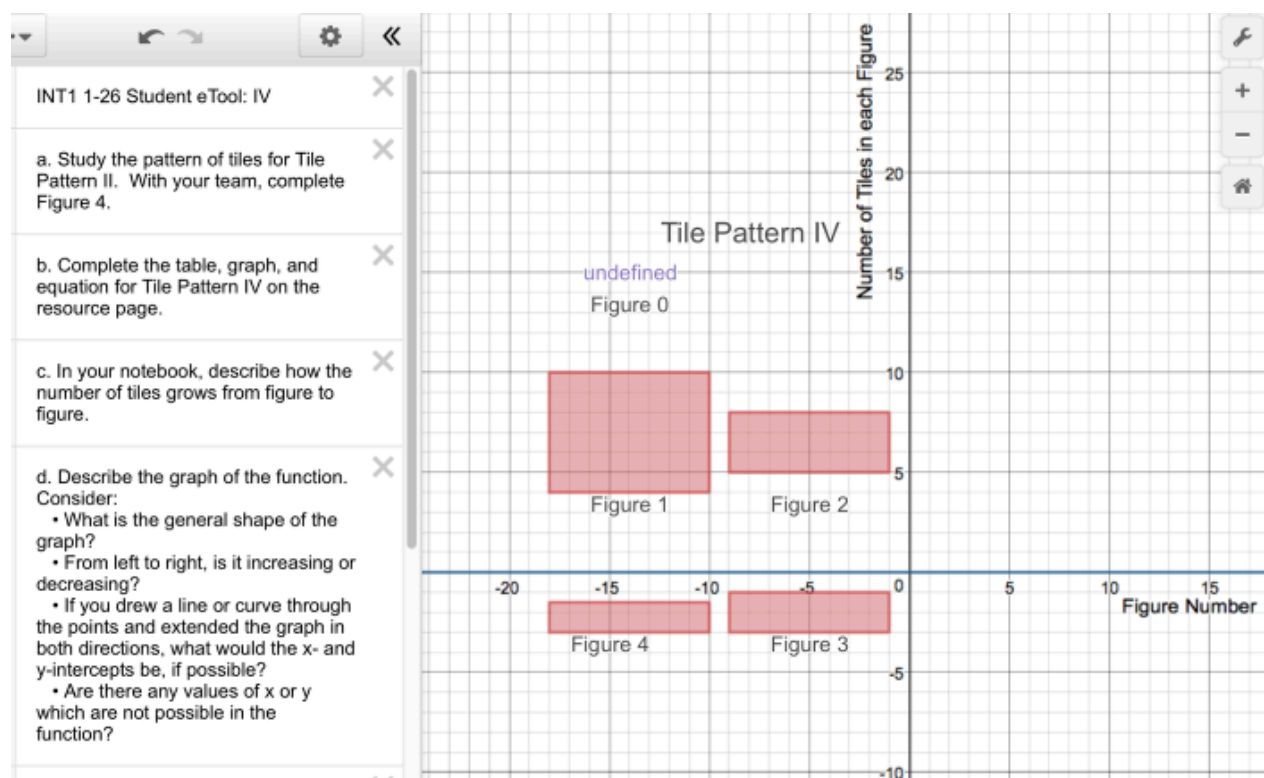
2. Int1 1-26 Student eTool II:



3. Int1 1-26 Student eTool III:



4. Int1 1-26 Student eTool IV:





Chapter 2

INT1 2.1.1: 2-1, 2-2, & 2-5 Student eTools (CPM)

Click on the links below.

[INT1 2-1 Student eTool \(CPM\)](#)

[INT1 2-2 Student eTool \(CPM\)](#)

[INT1 2-5 Student eTool \(CPM\)](#)

1. INT1 2-1 Student eTool (CPM):

INT1 2-1 Student eTool

Complete the following tasks for Pattern A, recording your work on the resource page or on your paper as appropriate.

a. What do you notice about the pattern?

b. Sketch the next figure in the sequence (Figure 4) for Pattern A on your resource page. Figure 0 is the name of the figure that comes before Figure 1. Sketch Figure 0.

c. By how much is tile Pattern A growing? Where are the tiles being added with each new figure?

d. What would Figure 100 look like for Pattern A? Describe it in words. How many tiles would be in the 100th figure? Find as many ways as you can to justify your conclusion.

e. Write an equation that relates the figure number, x , to the number of tiles, y .

The grid displays five figures of Pattern A, each composed of green tiles. Figure 0 is a 2x2 square. Figure 1 is a 3x3 square. Figure 2 is a 4x4 square. Figure 3 is a 5x5 square. Figure 4 is a 6x6 square. Each figure is composed of green tiles on a light gray grid.

2. INT1 2-2 Student eTool (CPM):

INT1 2-2 Student eTool

a. What do you notice about the pattern?

b. Sketch the next figure in the sequence (Figure 4) for Pattern A on your resource page. Figure 0 is the name of the figure that comes before Figure 1. Sketch Figure 0.

c. By how much is tile Pattern A growing? Where are the tiles being added with each new figure?

d. What would Figure 100 look like for Pattern A? Describe it in words. How many tiles would be in the 100th figure? Find as many ways as you can to justify your conclusion.

e. Write an equation that relates the figure number, x , to the number of tiles, y .

3. INT1 2-5 Student eTool (CPM):

CPM Tiles

▼ Title and Description

INT1 2-5 Student eTool

a. Draw Figures 0 and 4 for this pattern on the resource page.

b. Write an equation for the number of tiles in this pattern. Use color to show where the numbers in your equation appear in the tile pattern. Use x for the figure number and y for the number of tiles in the figure.

▼ Enable / Disable Tools

- Backgrounds
- Algebra Tiles
- Base Ten Blocks
- Number Lines
- Area and Perimeter
- General Tools
- Show Tray on Load

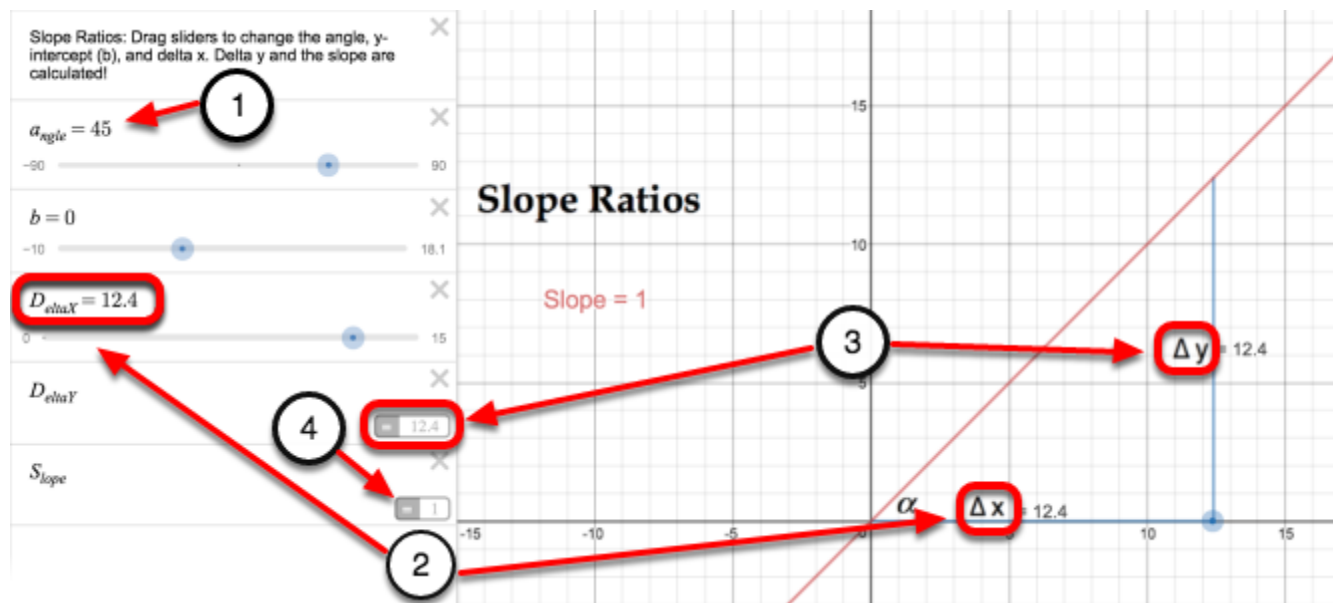
INT1 2.1.3: Slope Ratios (Desmos)

Click on the link below for the "Slope Ratios" eTool.

[Slope Ratios](#)

1. Use the sliders to to:

- Select an angle.
- Change the length of the adjacent side, delta x.
- The opposite side length, delta y, and the slope are calculated below.

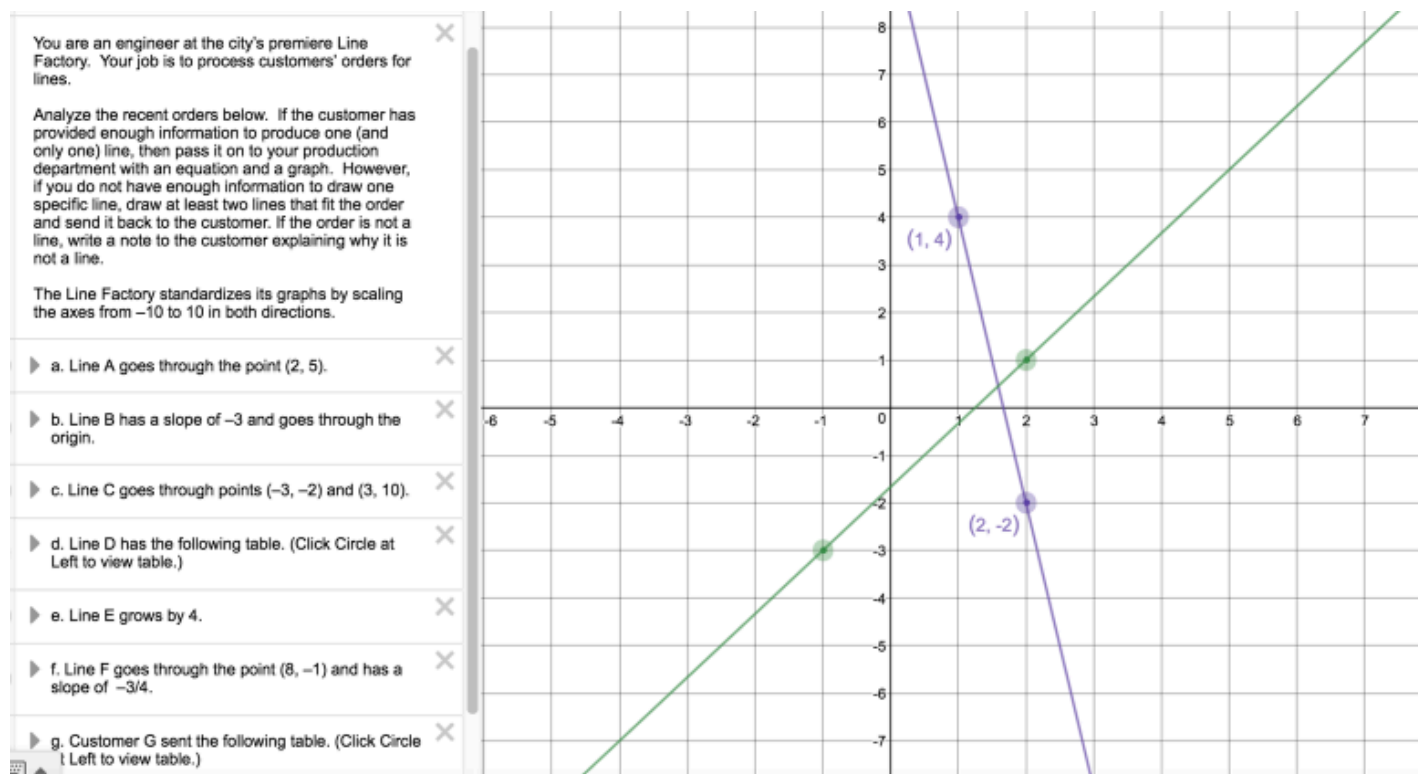


INT1 2.1.4: 2-36 Student eTool (Desmos)

Click on the link below.

[INT1 2-36 Student eTool \(Desmos\)](#)

INT1 2-36 Student eTool (Desmos):

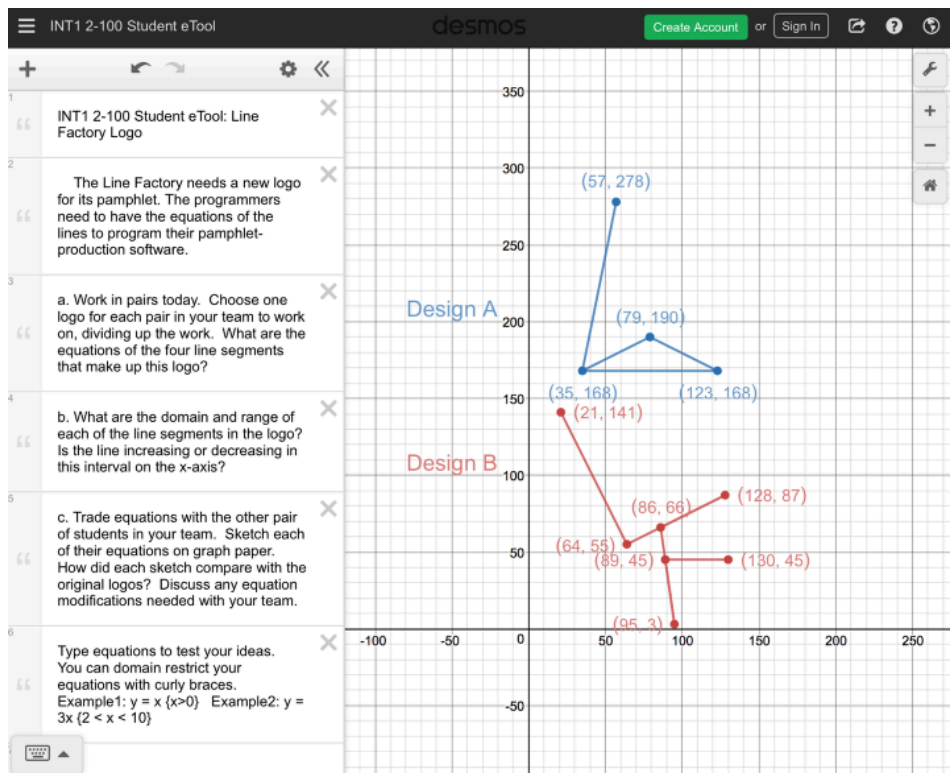


INT1 2.3.2: 2-100 Line Factory Logo Student eTool (Desmos)

Click on the link below.

[INT1 2-100 Line Factory Logo Student eTool \(Desmos\)](#)

1. INT1 2-100: Design A and B



INT1 2.3.3: Save the Earth: Practice Games 1-3 (Desmos)

Click on the link below for the "Save the Earth"

[INT1 Save the Earth: Practice Games 1-3 \(Desmos\)](#)

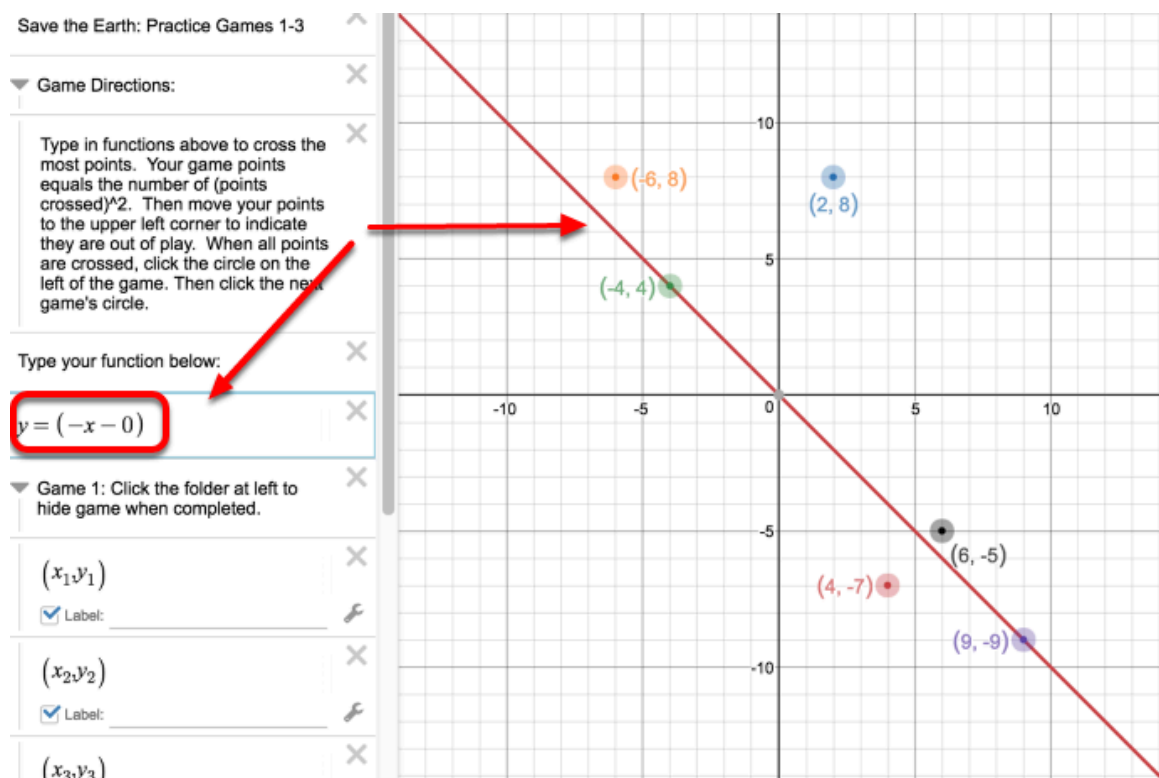
1. Click and unclick the Game desired.

The screenshot shows the 'Save the Earth: Practice Games 1-3' interface. On the left, there is a sidebar with the following sections:

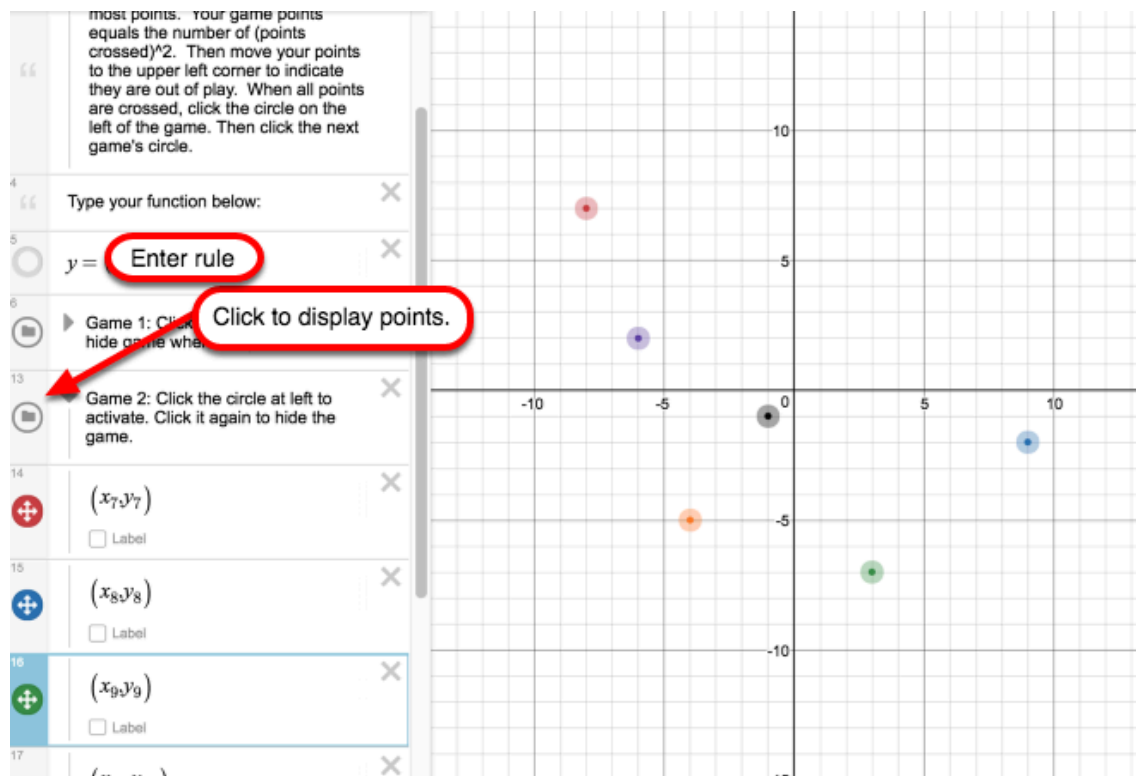
- Save the Earth: Practice Games 1-3** (with a close button 'X')
- Game Directions:** (with a dropdown arrow and a close button 'X'). The text reads: "Type in functions above to cross the most points. Your game points equals the number of (points crossed)^2. Then move your points to the upper left corner to indicate they are out of play. When all points are crossed, click the circle on the left of the game. Then click the next game's circle."
- Type your function below:** (with a close button 'X'). It shows $y = (\text{your rule})$ and a text input field labeled "Type Function Here".
- Game 1:** Click the folder at left to hide game when completed. (with a close button 'X').
- Game 2:** Click the circle at left to activate. Click it again to hide the game. (with a close button 'X').
- Game 3:** Click the circle at left to activate. Click it again to hide the game. (with a close button 'X').

The main area is a coordinate plane with x and y axes ranging from -10 to 10. Several points are plotted: an orange point at approximately (-6, 8), a blue point at (2, 8), a green point at (-3, 4), a red point at (4, -7), a grey point at (6, -5), and a purple point at (9, -9).

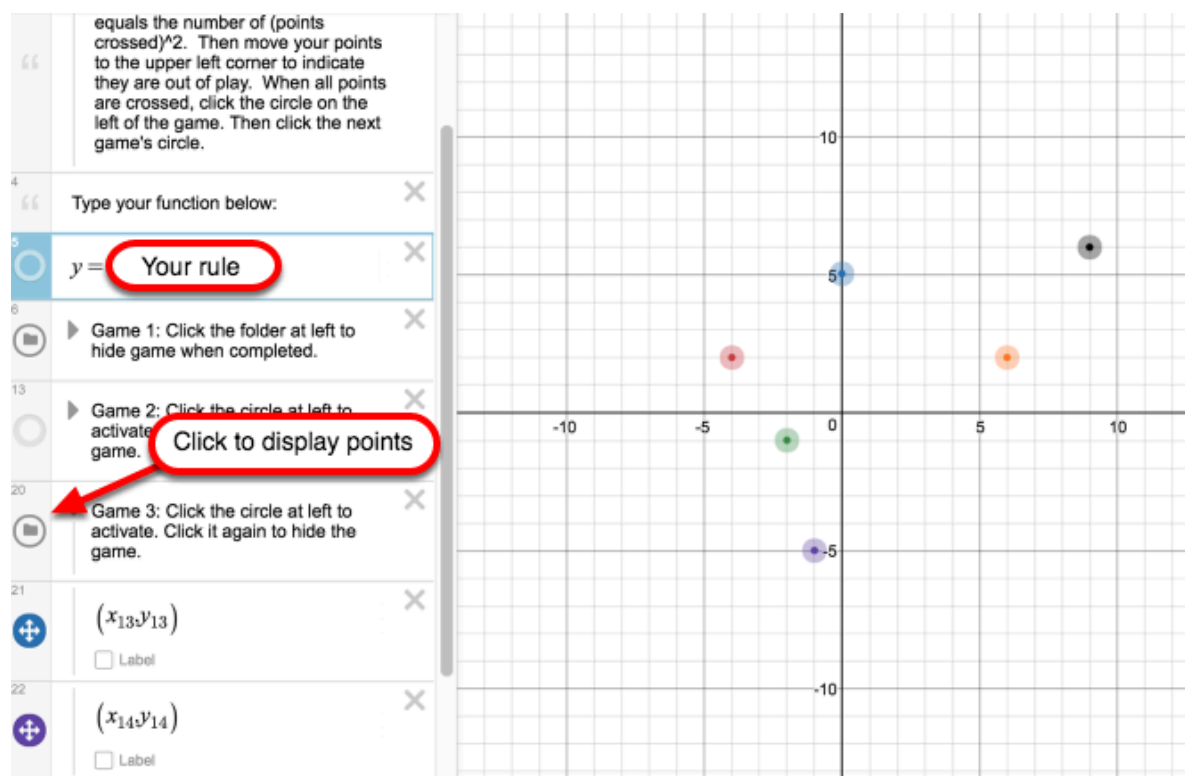
2. Game 1: See example below for an entered function.



3. Game 2:



4. Game 3:

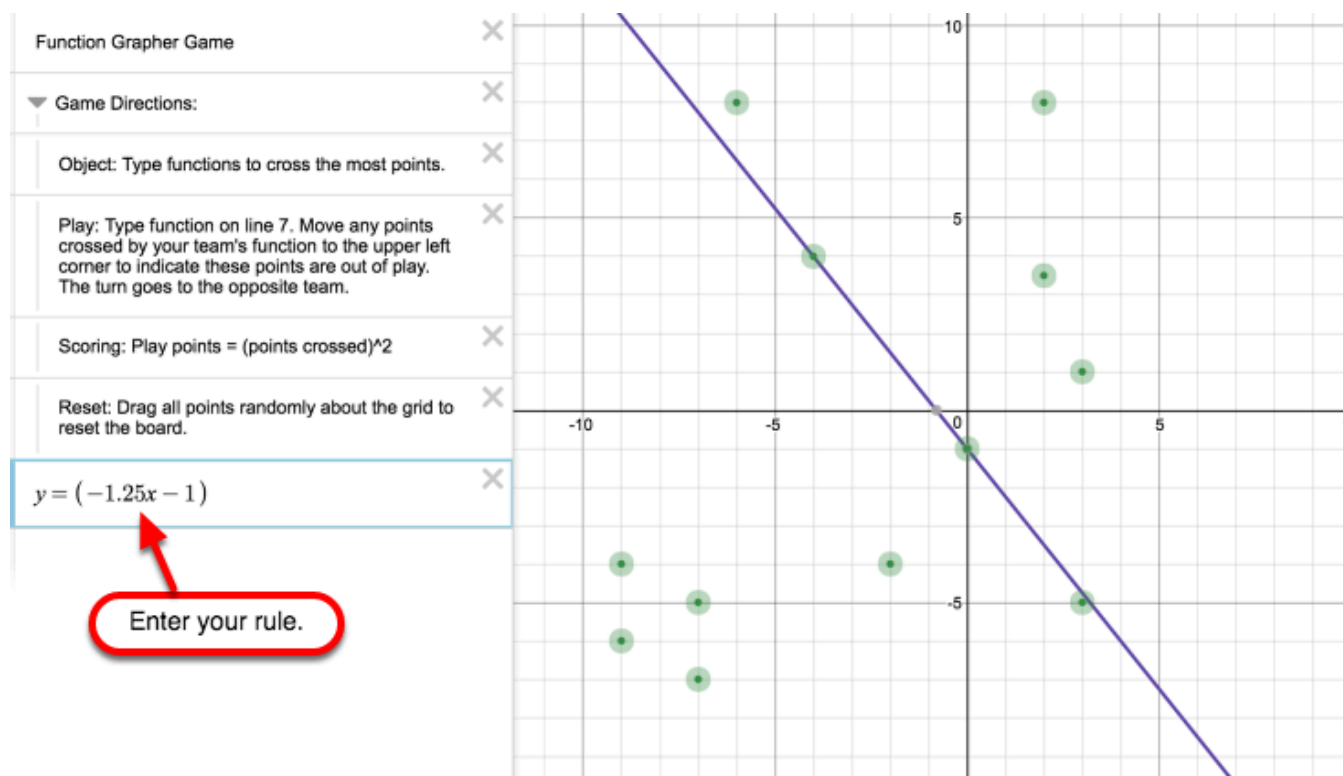


INT1 2.3.3: Function Grapher Game (Desmos)

Click on the link below for the "Function Grapher Game"

[INT1 Function Grapher Game \(Desmos\)](#)

1. Enter your rule to cross the most points.





Chapter 3

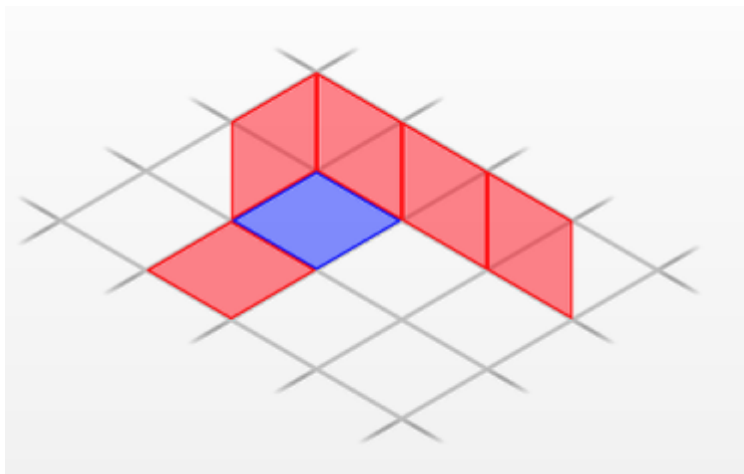
INT1 3.1.1: 3-1 3D Nets

These nets are interactive. Click on the sides to raise or lower them. Drag in a circular motion outside of the net to rotate in space. Go to the "?" for more help!

Click on the link below.

[INT1 3-1 3D Nets \(CPM\)](#)

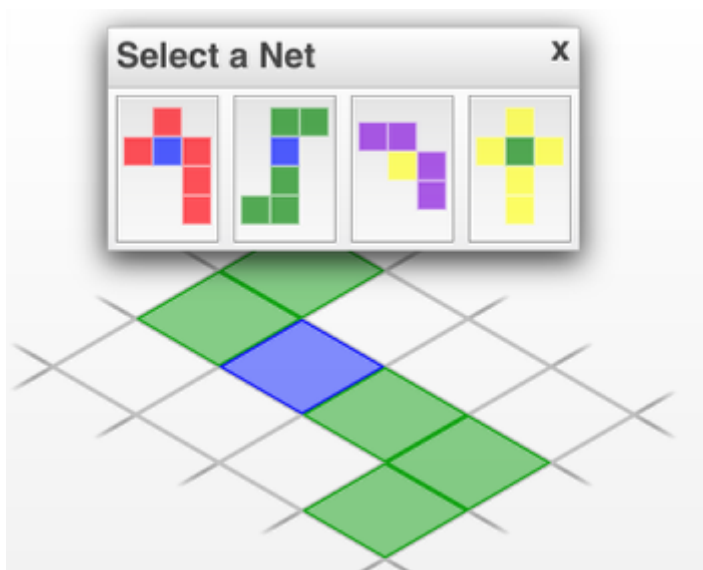
1. INT1 3-1a:



2. Get the other nets by going to the Edit menu!



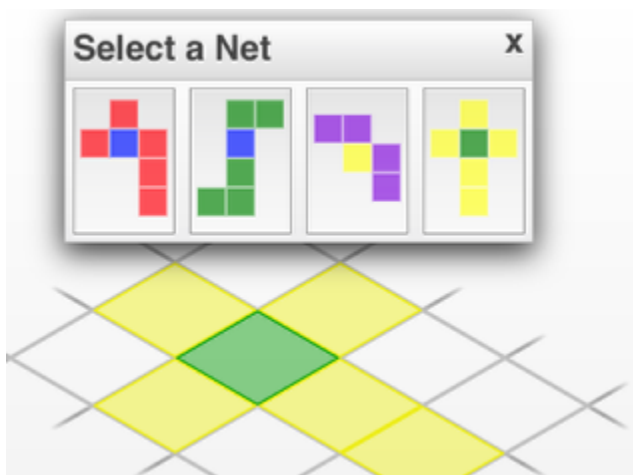
3. INT1 3-1b:



4. INT1 3-1c:



5. INT1 3-1d:



INT1 3.1.2: Transformations with 3-14 & 3-15a, c

Click on the links below.

[3-14 Student eTool \(Desmos\)](#)

[3-15a Student eTool \(Desmos\)](#)

[3-15e Student eTool \(Desmos\)](#)

1. 3-14: Click the folder buttons to view.

INT1 3-14 Student eTool

desmos

a. Find $\triangle ABC$ and lines n and p (shown below). What happens when $\triangle ABC$ is reflected across line n to form $\triangle A'B'C'$ and then $\triangle A'B'C'$ is reflected across line p to form $\triangle A''B''C''$? First visualize the reflections and then test your ideas of the result by drawing both reflections.

b. Examine your result from part (a). Compare the original triangle $\triangle ABC$ with the final result, $\triangle A''B''C''$. What single motion would change $\triangle ABC$ to $\triangle A''B''C''$?

c. Amanda analyzed her results from part (a). "It looks like I could have just slid $\triangle ABC$ over!" Sliding a shape from its original position to a new position is called translating. What words can you use to describe a translation?

d. The words "transformation" and "translation" sound alike and can easily be confused. Discuss in your team what these words mean and how they are related to each other.

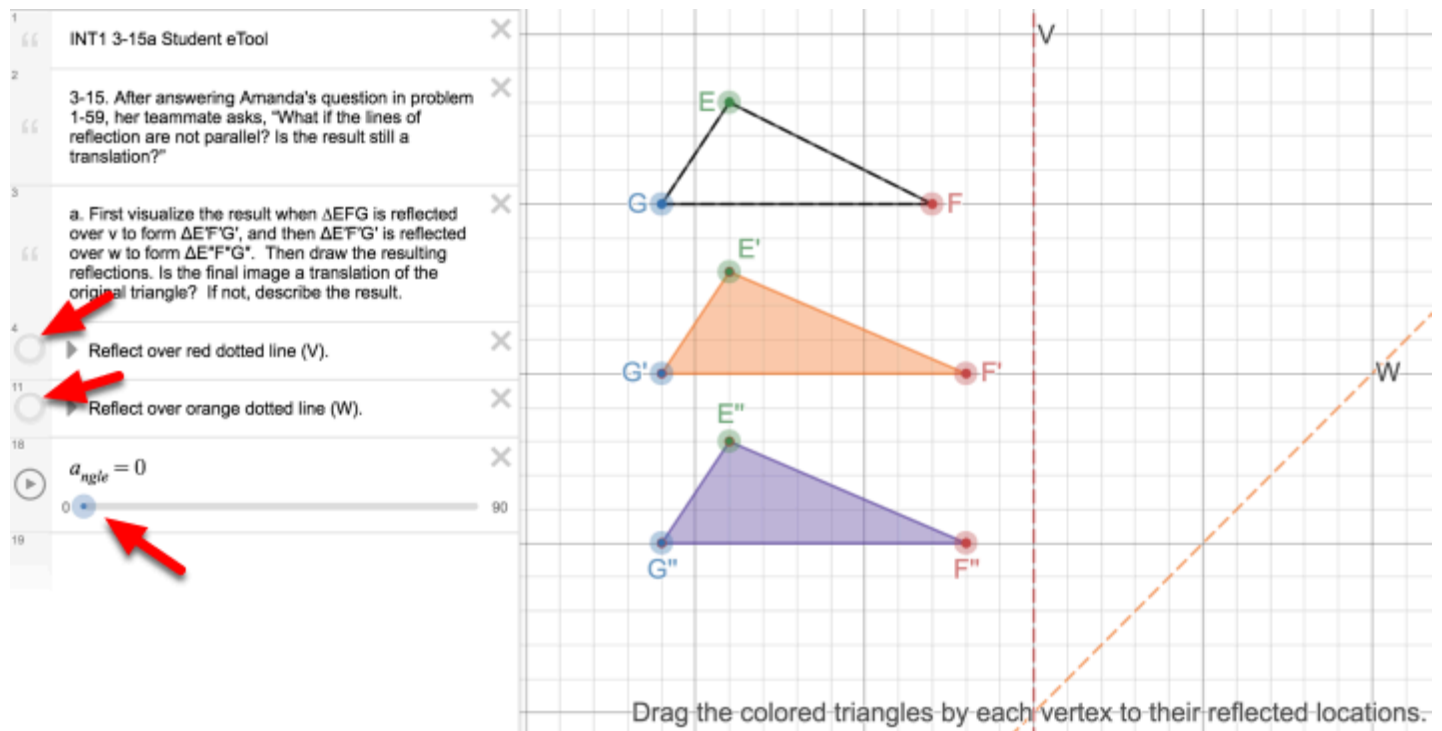
Click the circle on line 9 and 16 to reveal the reflection. To create a new shape, move the colored points about to change the shape.

Reflect over red dotted line.

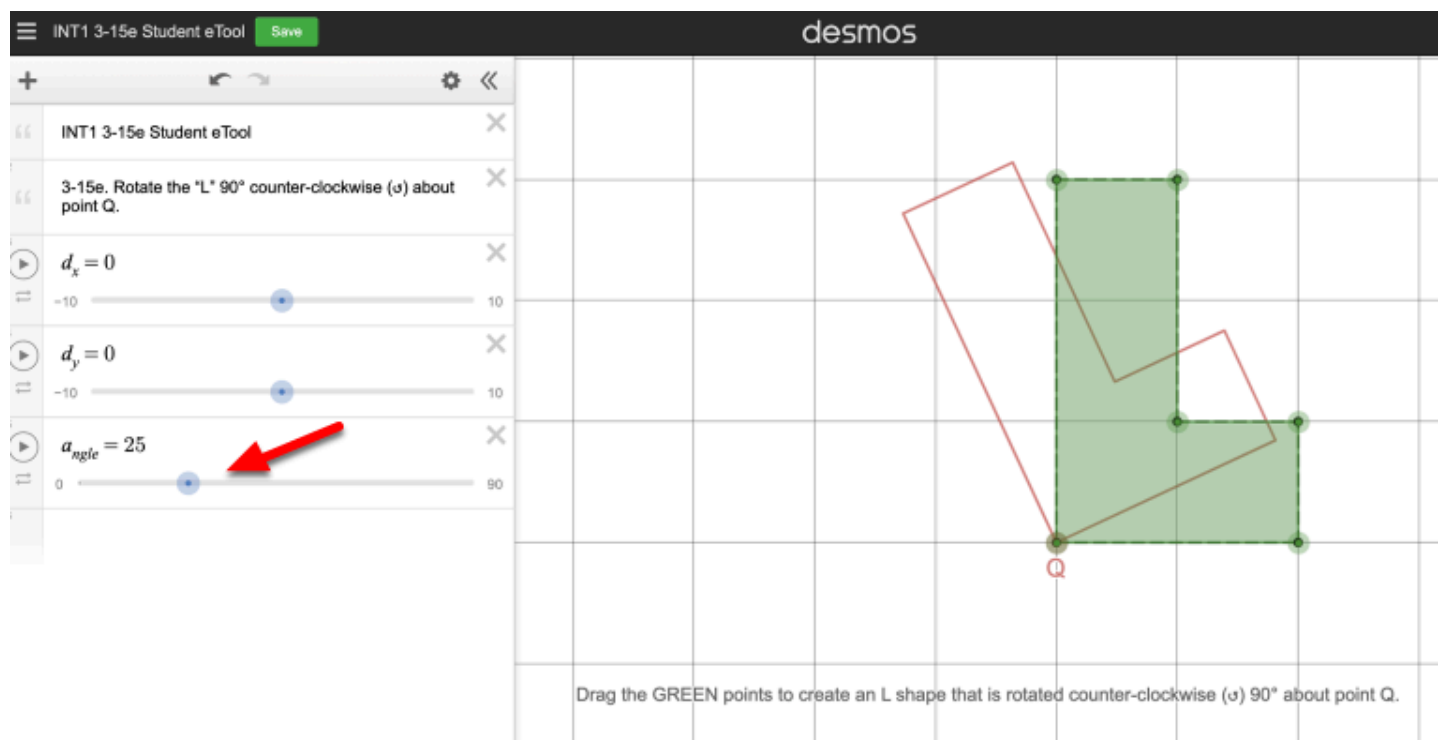
Reflect over blue dotted line.

Drag each vertex of a colored triangle to its reflection location.

2. 3-15a: Click the folder buttons to view the reflections. Drag the slider to view the rotation.



3. 3-15e: Drag the Angle Slider to view the rotation.

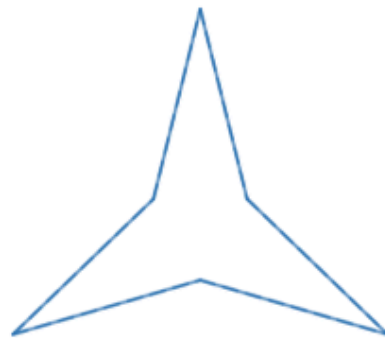
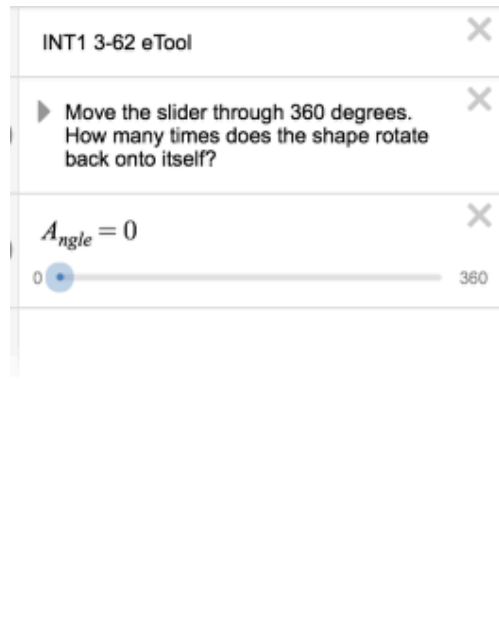


INT1 3.1.6: 3-62 eTool (Desmos)

Click the link below.

[3-62 Student eTool \(Desmos\)](#)

INT1 3-62 eTool (Desmos)



Move the slider to rotate the figure.



INT1 3.2.1: 3-73 Student eTool (CPM)

Click on the link below:

[3-73 Student eTool \(CPM\)](#)

INT1 3-74 Student eTool:


INT1 3-73 Student eTool

The algebra tiles will be named according to each of their areas. The tiles have a positive side and a negative side.


For each of the composite polygons formed by algebra tiles below:

- Sketch the polygon on your paper.
- Label each tile on your sketch with its area. Write a simplified expression that represents the total area of the polygon.
- Write a simplified expression that represents the total outside perimeter.

3-73 c. i.



c. ii.

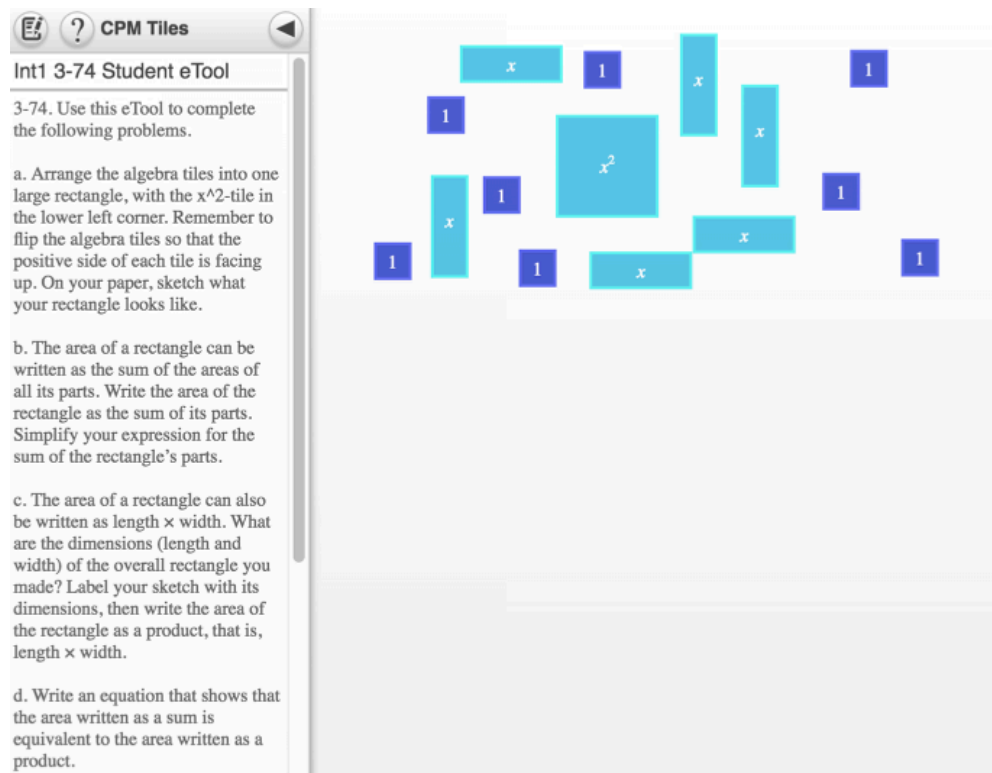


INT1 3.2.1: 3-74 Student eTool

Click on the link below.

[3-74 Student eTool \(CPM\)](#)

INT1 3-74 Student eTool:



CPM Tiles

Int1 3-74 Student eTool

3-74. Use this eTool to complete the following problems.

a. Arrange the algebra tiles into one large rectangle, with the x^2 -tile in the lower left corner. Remember to flip the algebra tiles so that the positive side of each tile is facing up. On your paper, sketch what your rectangle looks like.

b. The area of a rectangle can be written as the sum of the areas of all its parts. Write the area of the rectangle as the sum of its parts. Simplify your expression for the sum of the rectangle's parts.

c. The area of a rectangle can also be written as length \times width. What are the dimensions (length and width) of the overall rectangle you made? Label your sketch with its dimensions, then write the area of the rectangle as a product, that is, length \times width.

d. Write an equation that shows that the area written as a sum is equivalent to the area written as a product.

The main area of the eTool displays a collection of algebra tiles arranged in a large rectangle. The tiles include one large blue square labeled x^2 , several smaller blue squares labeled x , and many small red squares labeled 1 . The arrangement shows a central x^2 tile surrounded by x tiles, which are further surrounded by 1 tiles, forming a larger rectangle.

INT1 3.2.2: 3-83 Student eTool (CPM)

Click on the link below:

[3-83 Student eTool \(CPM\)](#)

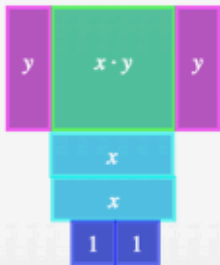
INT1 3-83 Student eTool (CPM):

INT1 3-83 Student eTool

3-83. Sketch the algebra tile figure on your paper. Write a simplified expression for the area and for the perimeter.

▶ Algebra Tiles

▶ General Tools



The algebra tile figure consists of the following tiles:

- Top row: one purple tile labeled y , one green tile labeled $x \cdot y$, and one purple tile labeled y .
- Middle row: one cyan tile labeled x .
- Bottom row: one cyan tile labeled x .
- Base: two blue tiles labeled 1 .

The figure is a right trapezoid with a height of 3 units and a base of 2 units. The area is $3x + 2y$ and the perimeter is $2x + 2y + 2$.



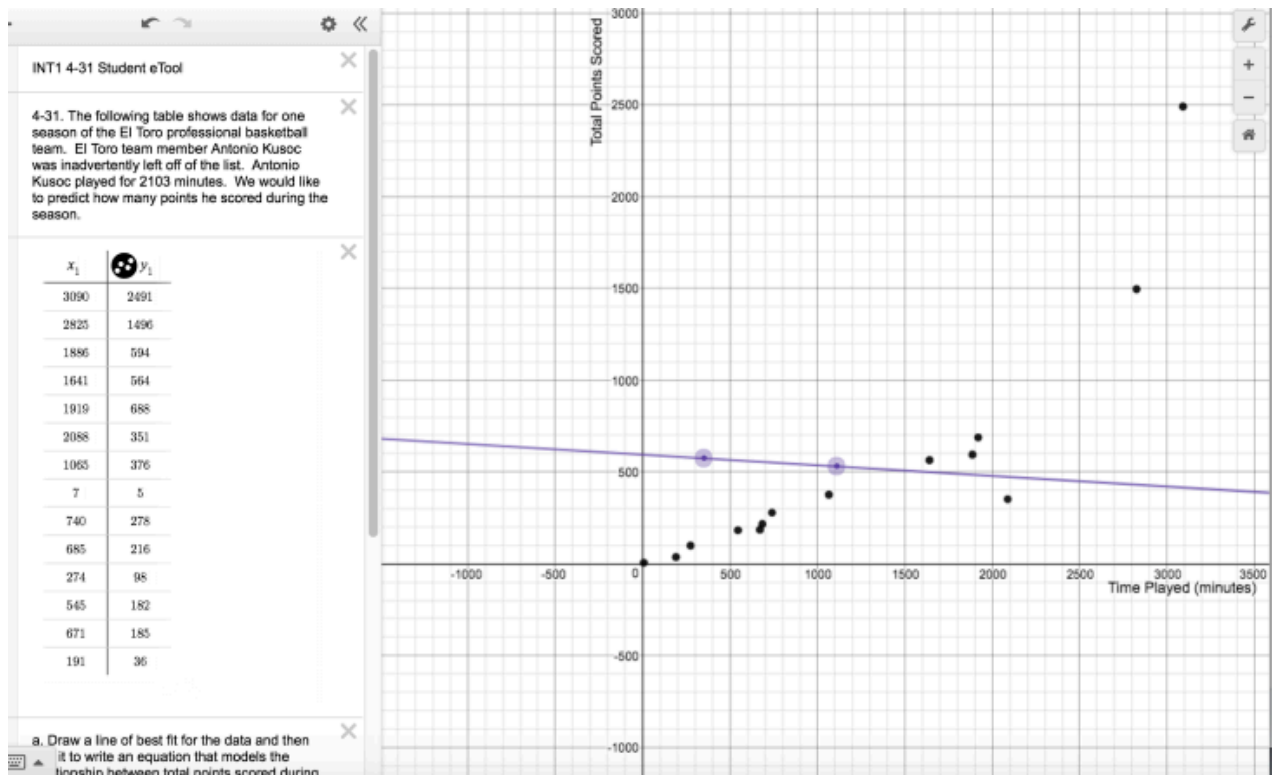
Chapter 4

Int1 4.1.4: 4-31 Student eTool (Desmos)

Click on the links below.

[4-31 Student eTool \(Desmos\)](#) (Desmos)

1. Int1 4-31 Student eTool (Desmos)

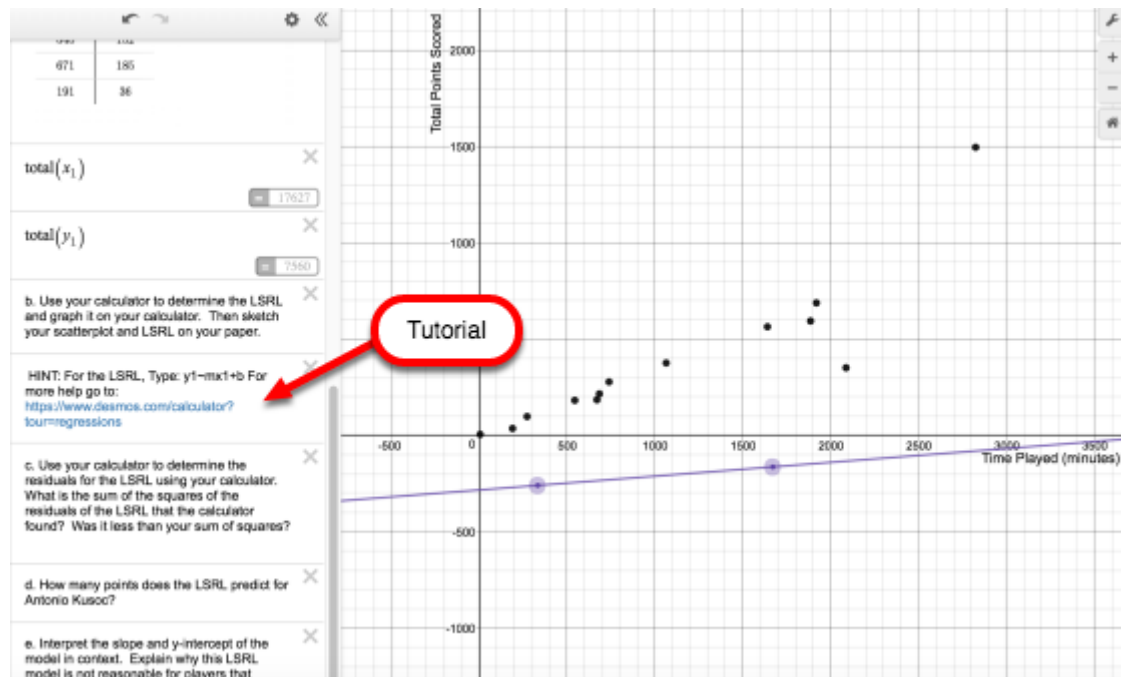


Int1 4.1.4: 4-34 Student eTool (Desmos)

Click on the links below.

[4-34 Student eTool \(Desmos\)](#)

1. 4-34 Student eTool (Desmos)



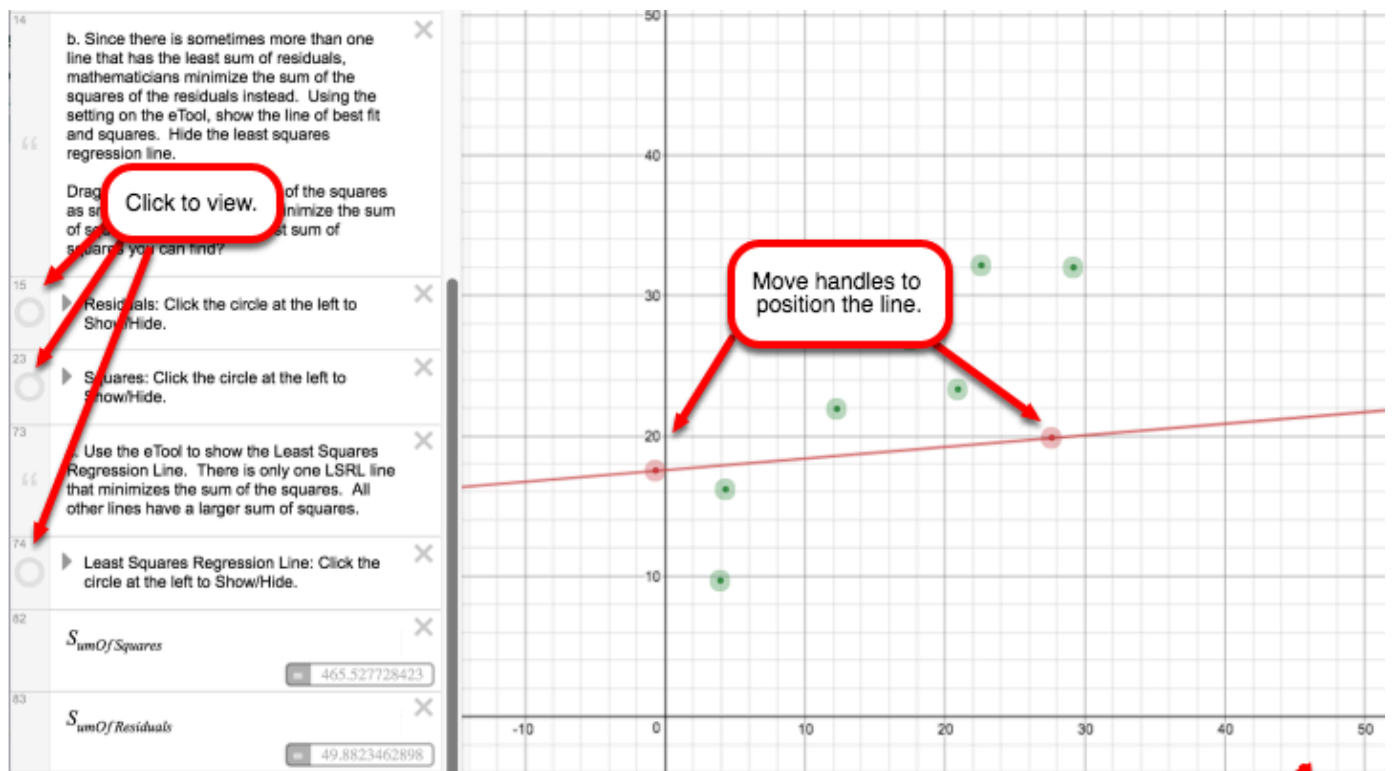
Int1 4.1.4: 4-35 Student eTool (Desmos)

Click on the links below.

[4-35 Student eTool \(Desmos\)](#)

1. 4-35 Least Squares Student eTool (Desmos)

- Use this etool to visually position a line of best fit.
- Click the circles to view the actual line of best fit.
- Click the circles to view the residuals and the square of the residuals.



Int1 4.2.1: 4-48, 4-49, 4-51, 4-52, 4-52 Student eTools (Desmos) & 4-52 Random Point Generator (G-sheet)

Click on the links below.

[4-48 Student eTool](#) (Desmos)

[4-49 Student eTool](#) (Desmos)

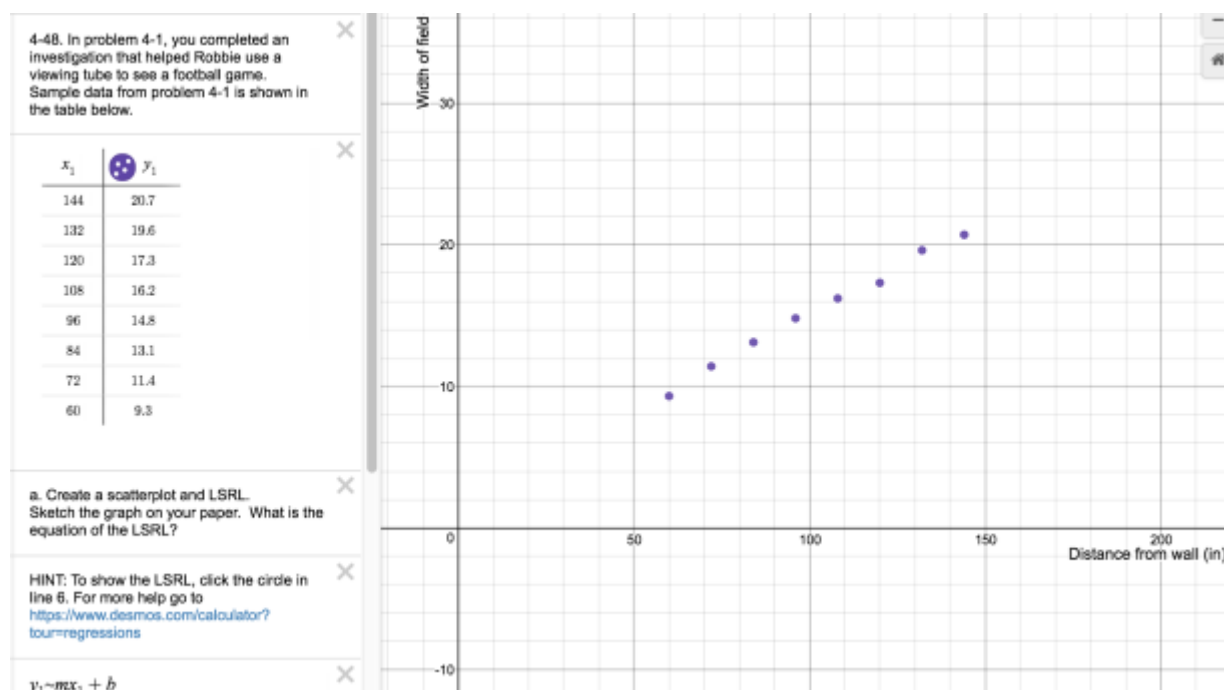
[4-51 Student eTool](#) (Desmos)

[4-52 Student eTool](#) (Desmos)

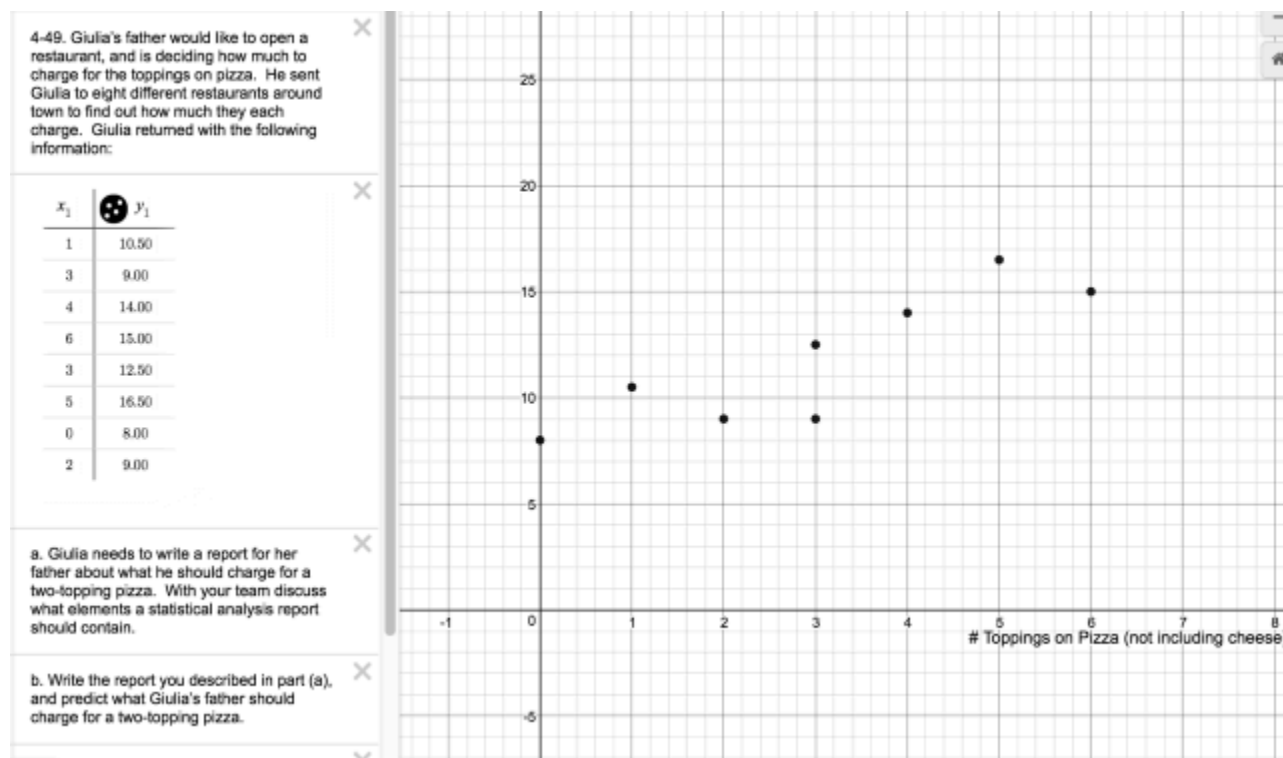
[4-54 Random Point Generator](#) (Google Sheet)

[4-54 Student eTool](#) (Desmos)

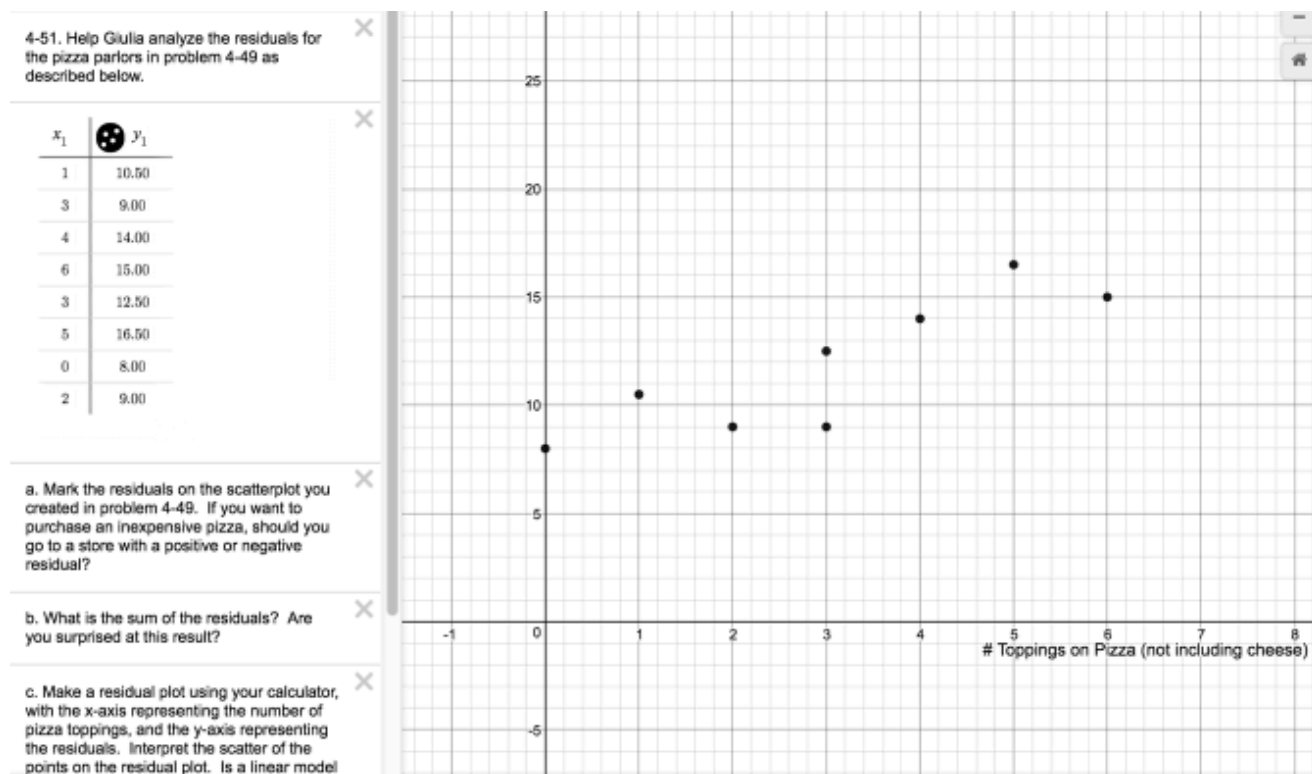
Int1 4-48 Student eTool (Desmos):



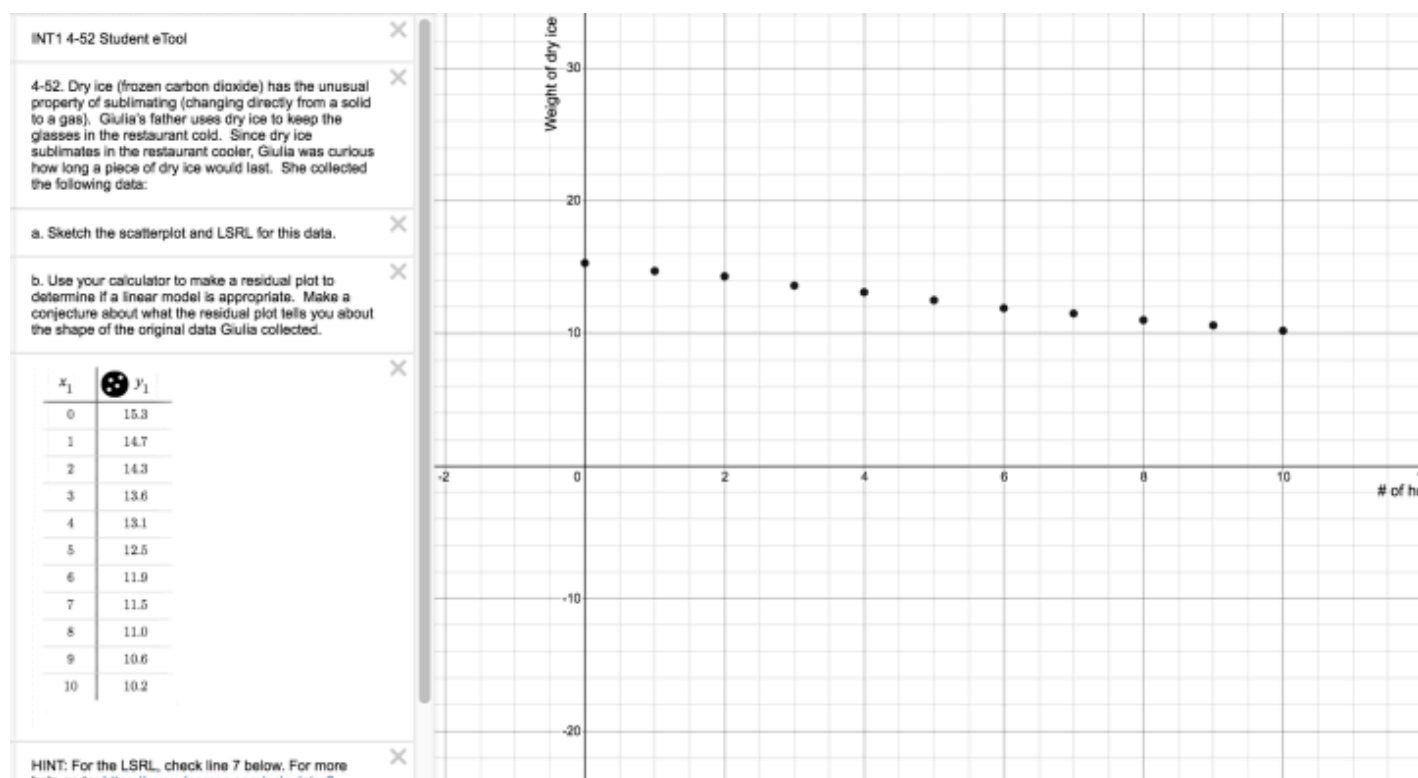
Int1 4-49 Student eTool (Desmos):



Int1 4-51 Student eTool (Desmos)

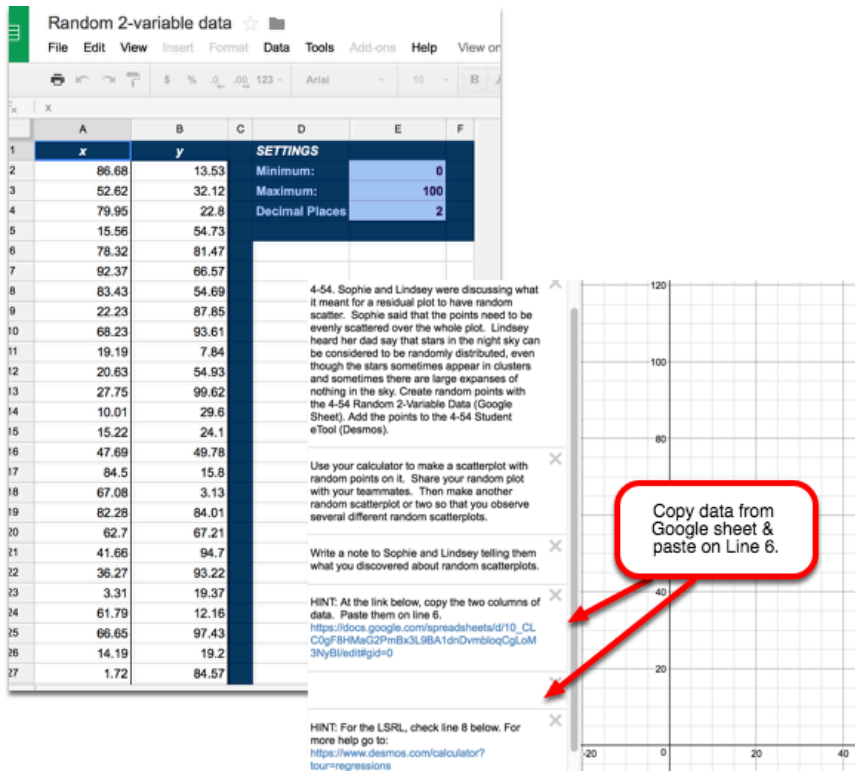


Int1 4-52 Student eTool (Desmos):



Random Point Generator & Int1 4-54 Student eTool (Desmos):

- Duplicate the Google Sheet for your personal use!
- Modify the settings.
- Press refresh to obtain new random numbers.
- Copy and Paste both columns into the 4-54 Student eTool (Desmos).
- A table of values will be created and the data plotted on the graph.
- Press the wrench on the upper right corner to set the Range and Domain for the graph.



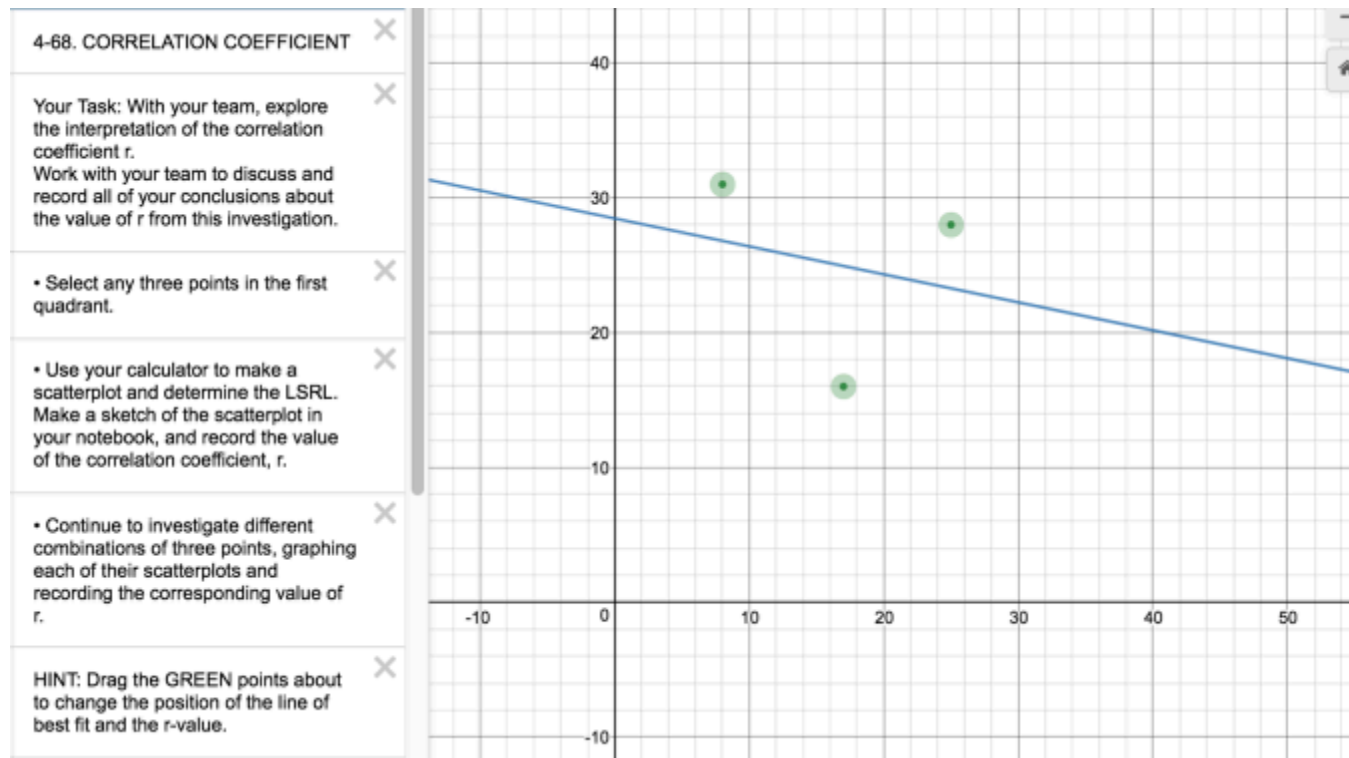
Int1 4.2.2: 4-68 Student eTool (Desmos) & 4-73 Student eTool (Desmos)

Click the links below:

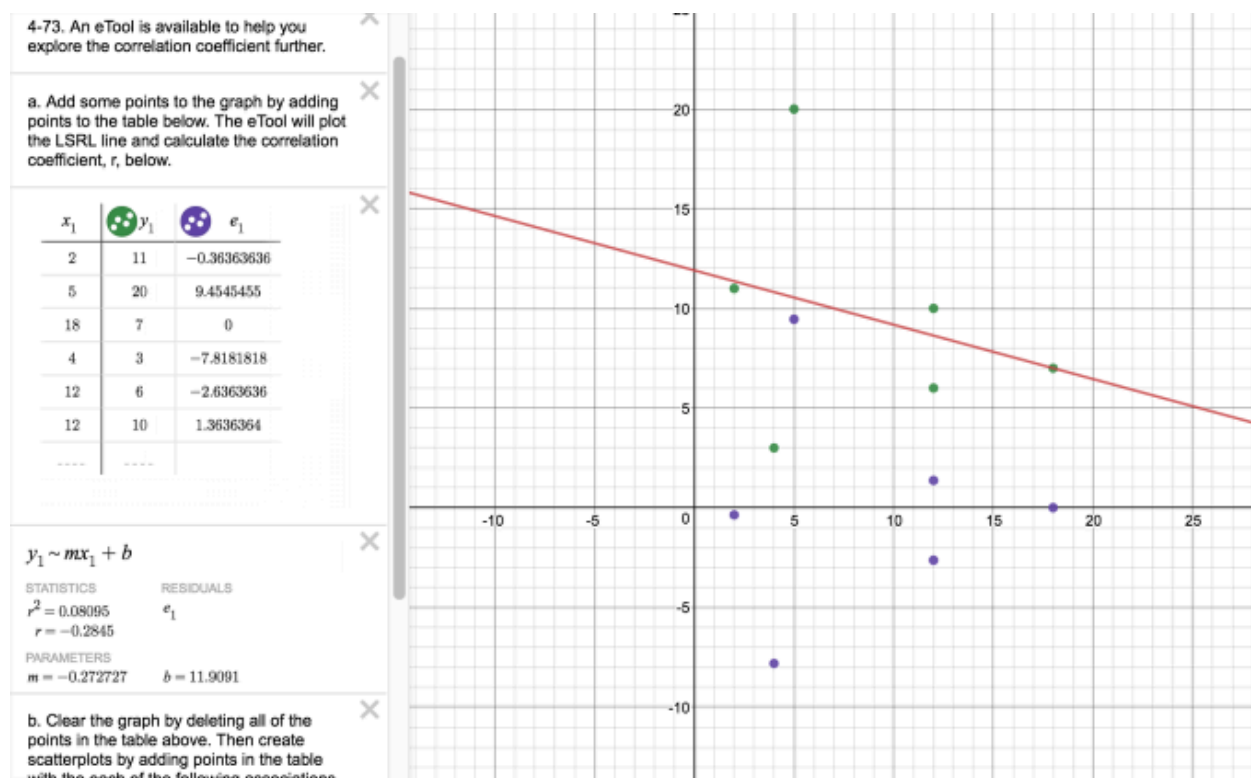
[4-68 Student eTool](#) (Desmos)

[4-73 Student eTool](#) (Desmos)

Int 4-68 Student eTool (Desmos):



Int 4-73 Student eTool (Desmos):



Int1 4.2.4: 4-92, 4-93, 4-49 Student eTools (Desmos)

Click on the links below

[4-92 Student eTool](#) (Desmos)

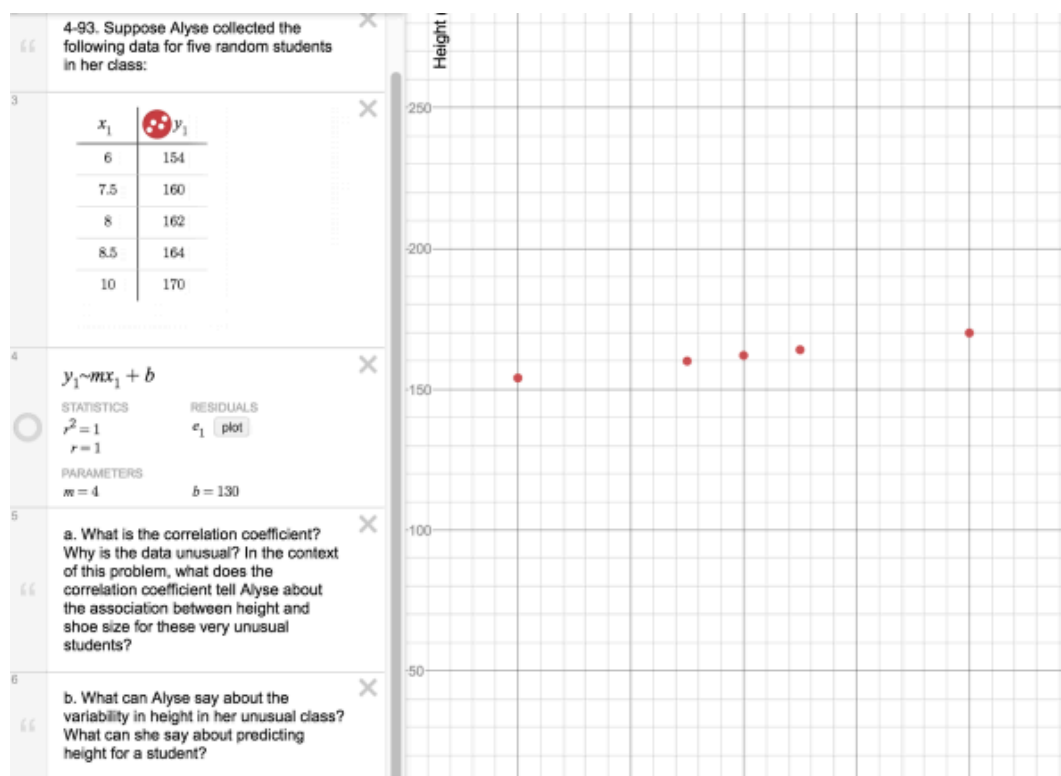
[4-93 Student eTool](#) (Desmos)

[4-95 Student eTool](#) (Desmos)

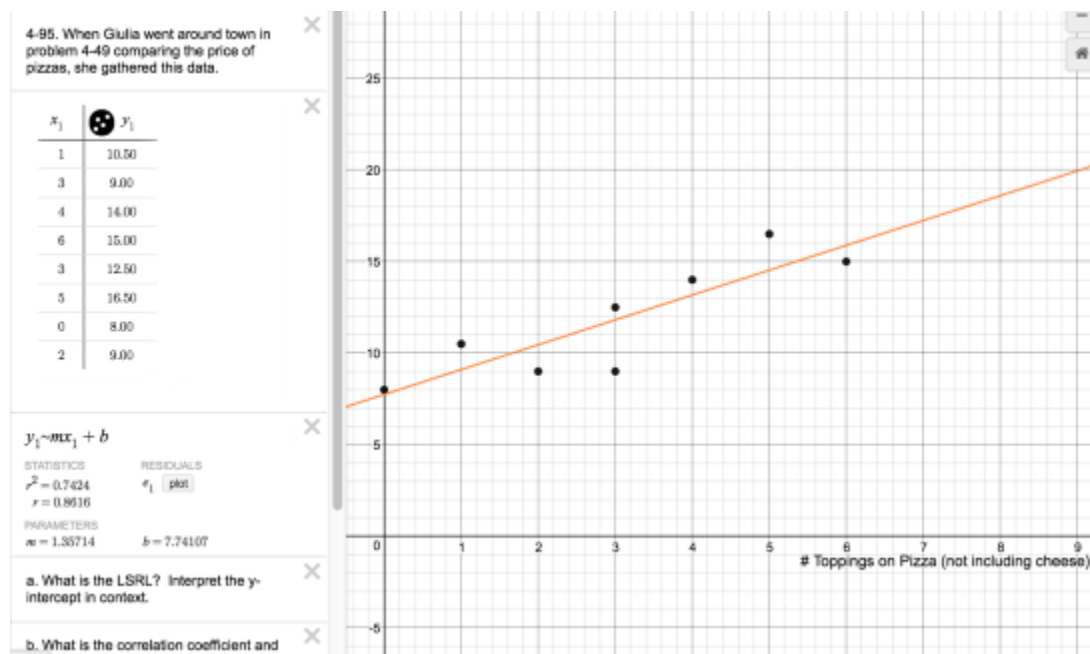
Int1 4-92 Student eTool:



Int1 4-93 Student eTool:



Int1 4-95 Student eTool:





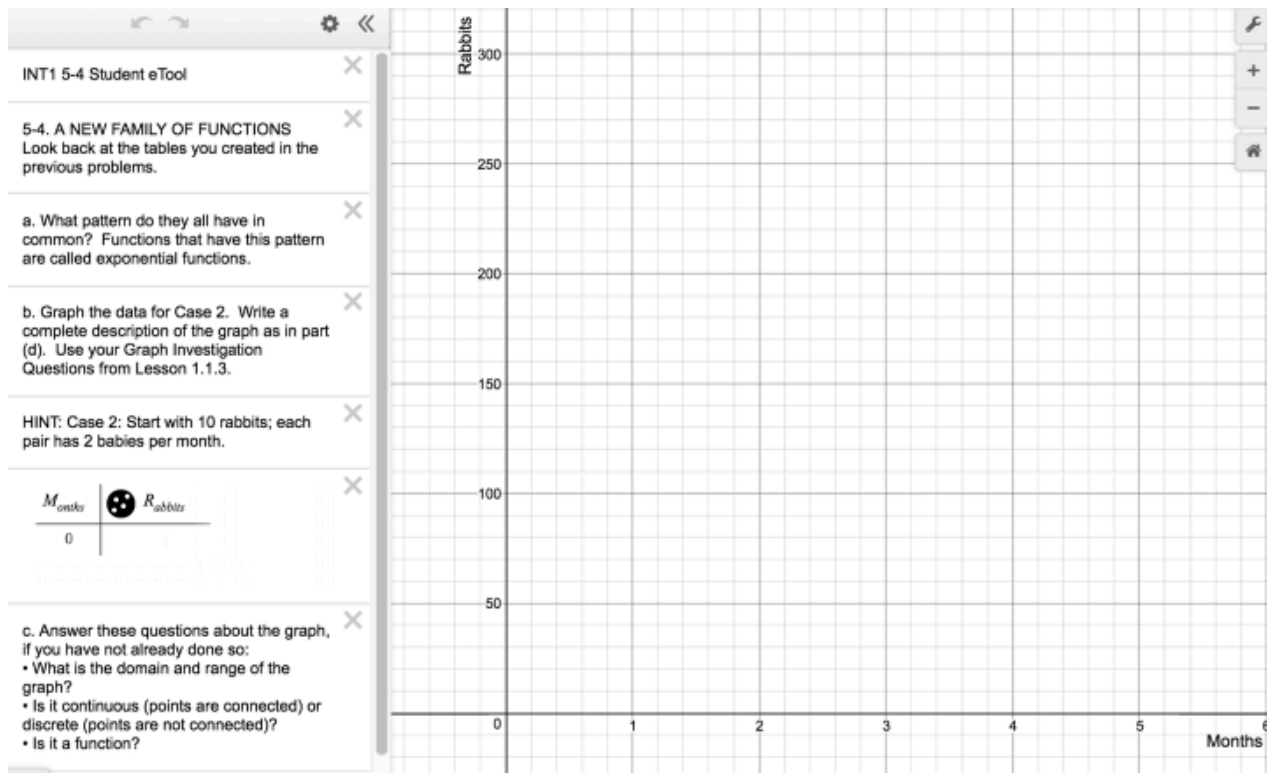
Chapter 5

INT1 5.1.1: 5-4 Student eTool (Desmos)

Click on the link below.

[5-4 Student eTool \(Desmos\)](#)

Int1 5-4 Student eTool (Desmos)



INT1 5.3.1: 5-83 Student eTool (Desmos)

Click on the link below.

[5-83 Student eTool \(Desmos\)](#)

INT1 5-83 Student eTool (Desmos)

INT1 5-83 Student eTool

5-83. PATTERNS OF GROWTH

Your Task:

- Represent these three sequences on a graph. Use a different color for each sequence. Although the graph is discrete, connect the points so you can see the patterns more easily.

- Consider the "Discussion Points" below for each sequence as you investigate the growth patterns of these three sequences. You can discuss the sequences in any order.

- Be prepared to share your results with the class.

n	A_n	B_n	C_n
1	----	----	----
2	----	----	----
3	----	----	----
4	----	----	----

n	$f(n)$
1	27
2	54
3	81
4	108

n	$f(n)$
1	9
2	36
3	81
4	144

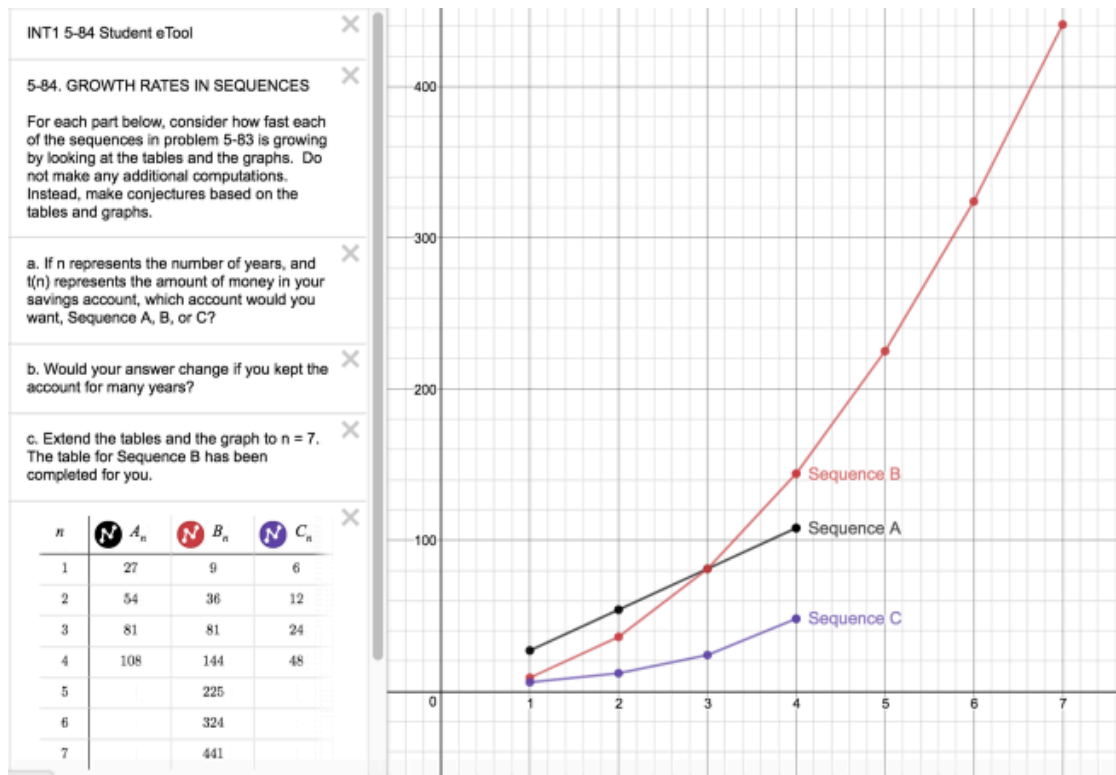
n	$f(n)$
1	6
2	12
3	24
4	48

INT1 5.3.1: 5-84 Student eTool (Desmos)

Click on the link below.

[5-84 Student eTool \(Desmos\)](#)

INT1 5-84 Student eTool (Desmos)





Chapter 7

INT1 7.1.2: 7-13b Student eTool (CPM)

Click on the link below to access eTool.

[7-13b Student eTool \(CPM\)](#)

Use the eTool to solve part (b) of problem 7-13.

⚙ ? CPM Similarity
◀

Int1 7-13b

▼ Notes

b) Can you make another triangle, with the same angles, that is not similar to your original triangle? Can you create any two triangles with the same three angle measures that are not similar?

Tip: Test your ideas with transformations!

▶ Show/Hide Labels

▶ Side Lengths and Ratios

The diagram shows two triangles, $\triangle ABC$ and $\triangle FED$. In $\triangle ABC$, the angles are $\angle A = 62^\circ$, $\angle C = 80^\circ$, and $\angle B = 38^\circ$. In $\triangle FED$, the angles are $\angle F = 38^\circ$, $\angle E = 80^\circ$, and $\angle D = 62^\circ$. The triangles are not similar because the corresponding angles are not in the same order.

INT1 7.1.2: 7-16 Student eTools (CPM)

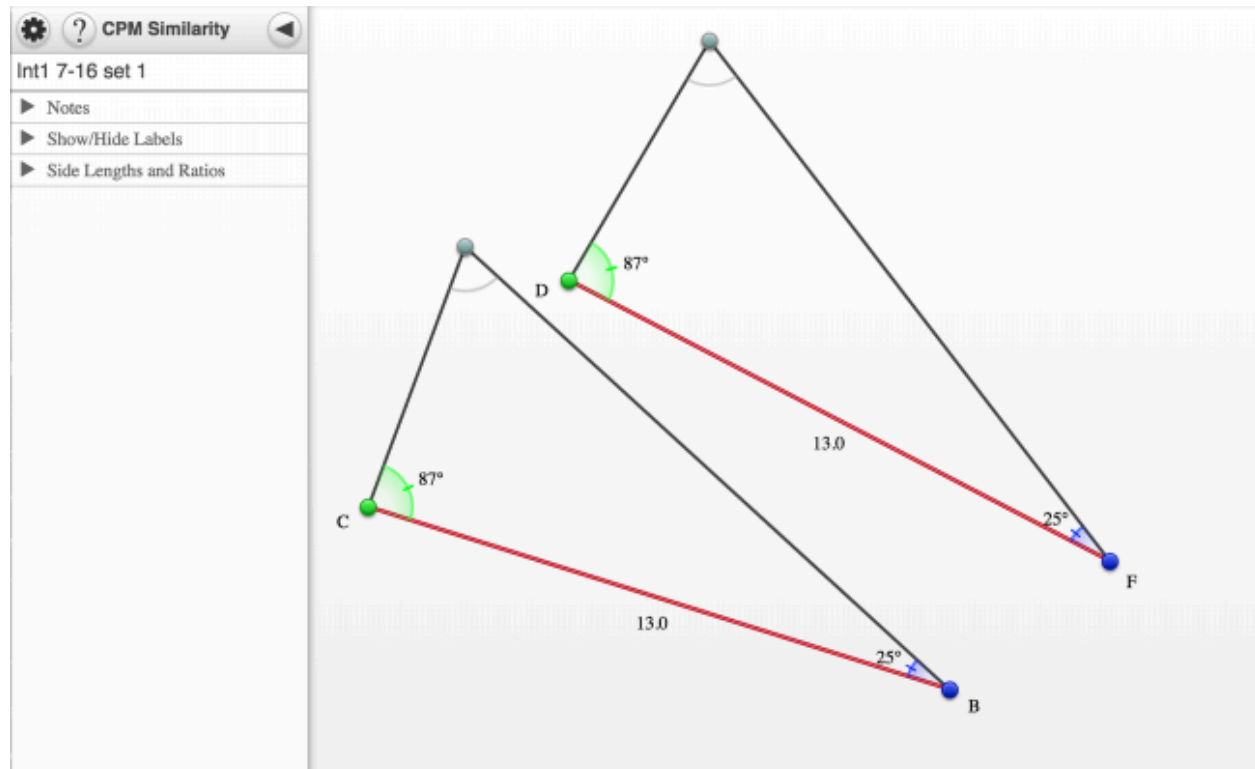
Click on the links below to access eTools.

[7-16 set 1 Student eTool \(CPM\)](#)

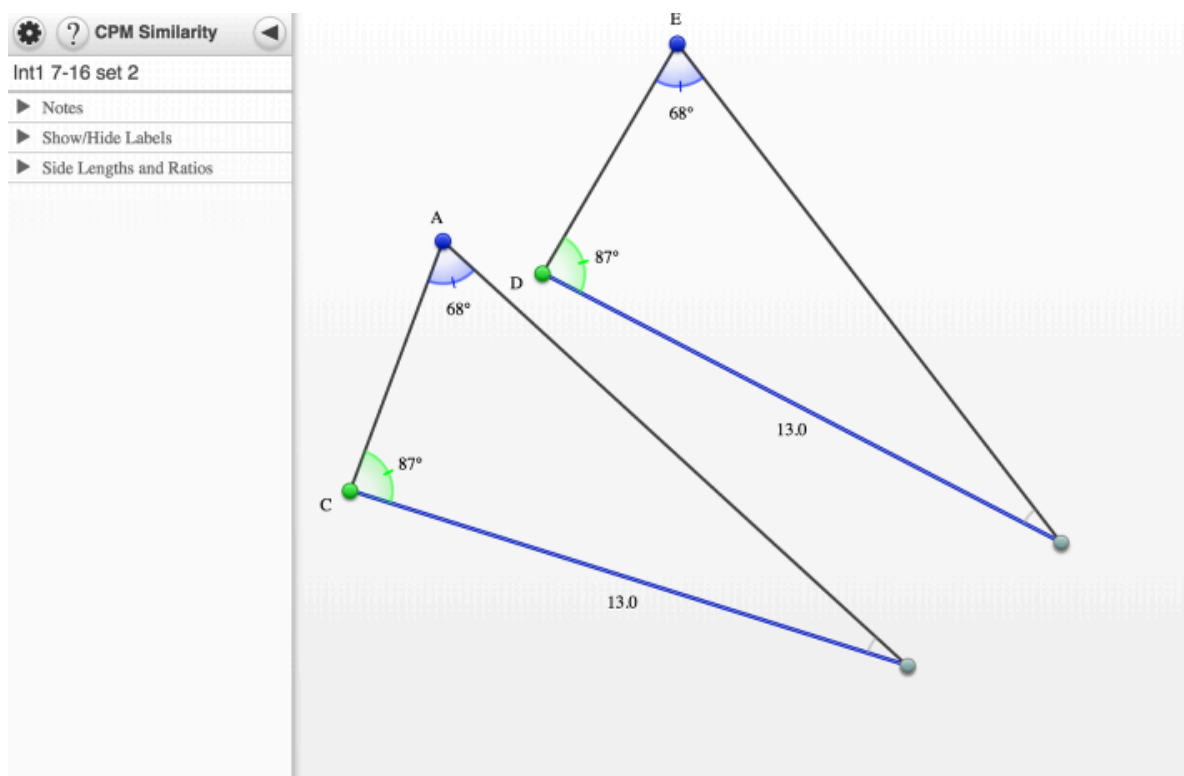
[7-16 set 2 Student eTool \(CPM\)](#)

For more information on Similarity eTools, view [Similarity Toolkit \(CPM\)](#).

INT1 7-16 set 1 Student eTool (CPM):



INT1 7-16 set 2 Student eTool (CPM):



INT1 7.1.5: 7-52, 7-53, 7-54, 7-56 & 7-57 Student eTools (CPM)

Click on the links below to access eTools.

[7-52 Student eTool \(CPM\)](#) [7-53 Student eTool \(CPM\)](#) [7-54 Student eTool \(CPM\)](#) [7-56 Student eTool \(CPM\)](#) [7-57 Student eTool \(CPM\)](#)

Use these eTools investigate what conditions are necessary to determine if triangles are similar.

For more information on Similarity eTools, view [Similarity Toolkit \(CPM\)](#).

INT1 7-52 Student eTool (CPM):

INT1 7-52 Student eTool

▼ Notes

INT1 7-52

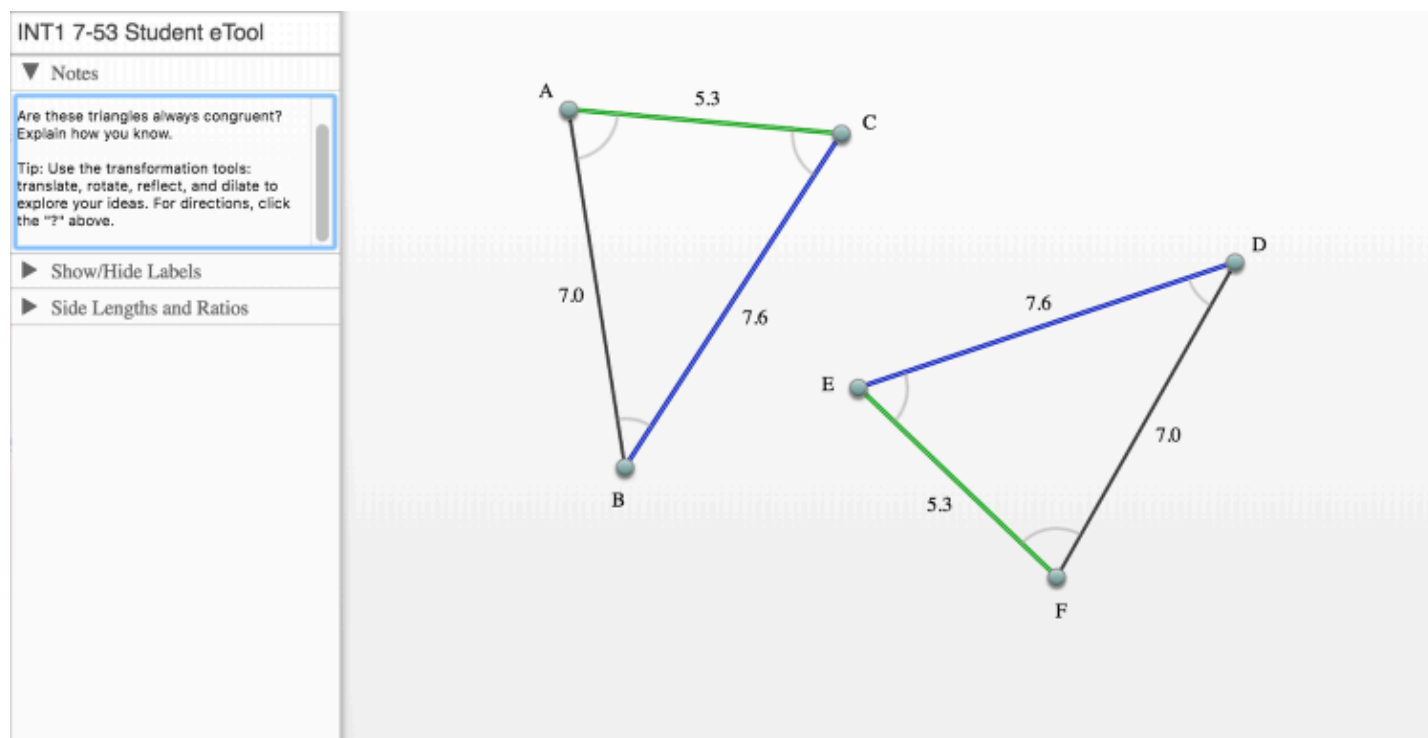
Are these triangles always congruent?
Explain how you know.

Tip: Use the transformation tools:
translate, rotate, reflect, and dilate to
explore your ideas. For directions, click
the ? button.

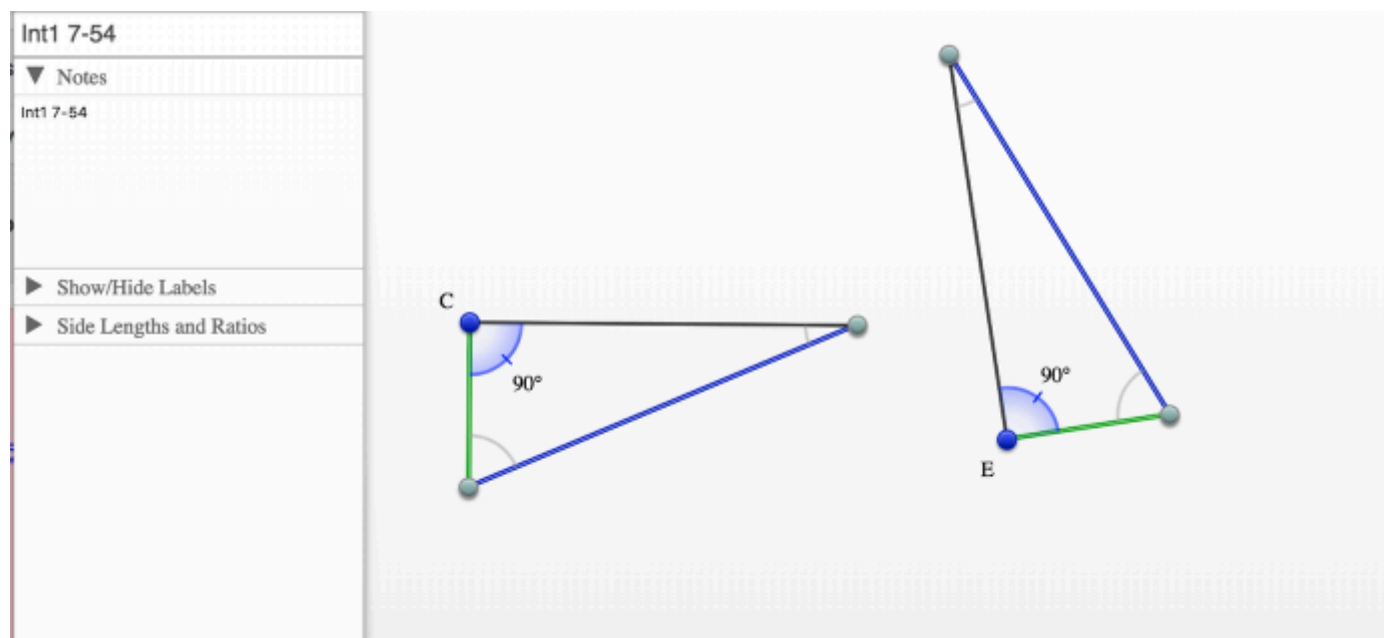
► Show/Hide Labels

► Side Lengths and Ratios

INT1 7-53 Student eTool (CPM):



INT1 7-54 Student eTool (CPM):



INT1 7-56 Student eTool (CPM):

Int1 7-56a Student eTool

▼ Notes

Int1 7-56a

Is it possible to make a second triangle with two sides proportional to 4 cm and 5 cm, and an included angle of 20° that is not congruent?

► Show/Hide Labels

► Side Lengths and Ratios

INT1 7-57 Student eTool (CPM):

Int1 7-57

▼ Notes

Triangle ABC is currently congruent to triangle EFD. Is it possible to have SSA and have two different triangles which are not congruent? Experiment by moving the angles.

► Show/Hide Labels

► Side Lengths and Ratios

INT1 7.1.6: 7-65a, 7-65b & 7-66 Student eTools (CPM)

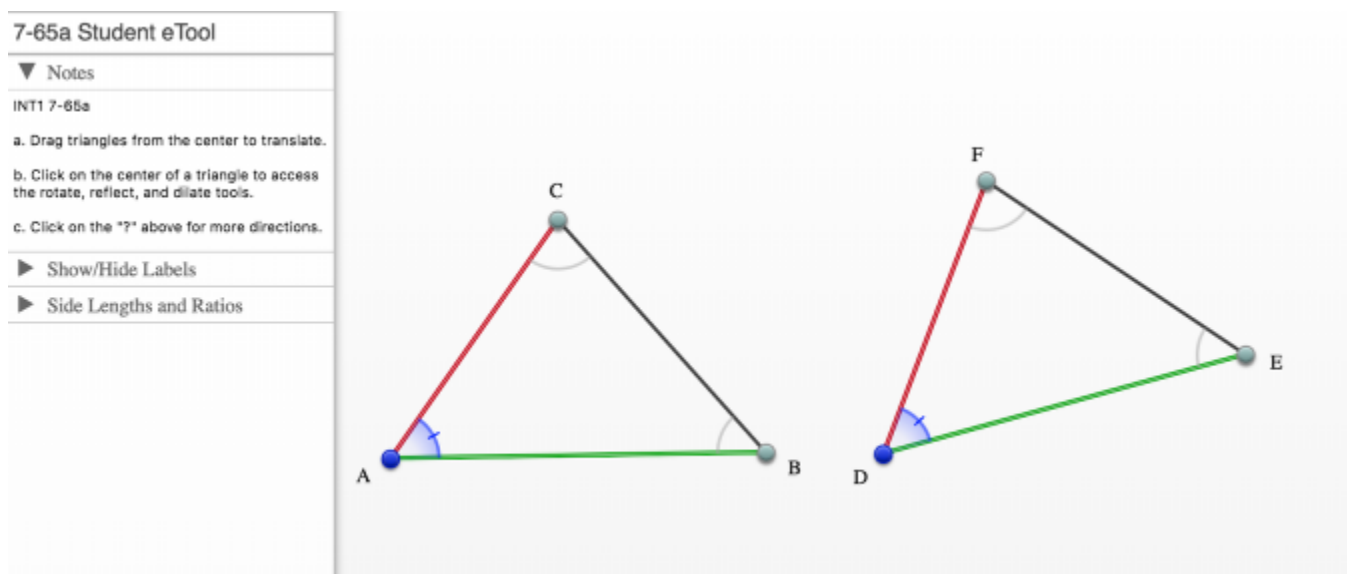
Click on the links below to access eTools.

[7-65a Student eTool \(CPM\)](#) [7-65b Student eTool \(CPM\)](#) [7-66 Student eTool \(CPM\)](#)

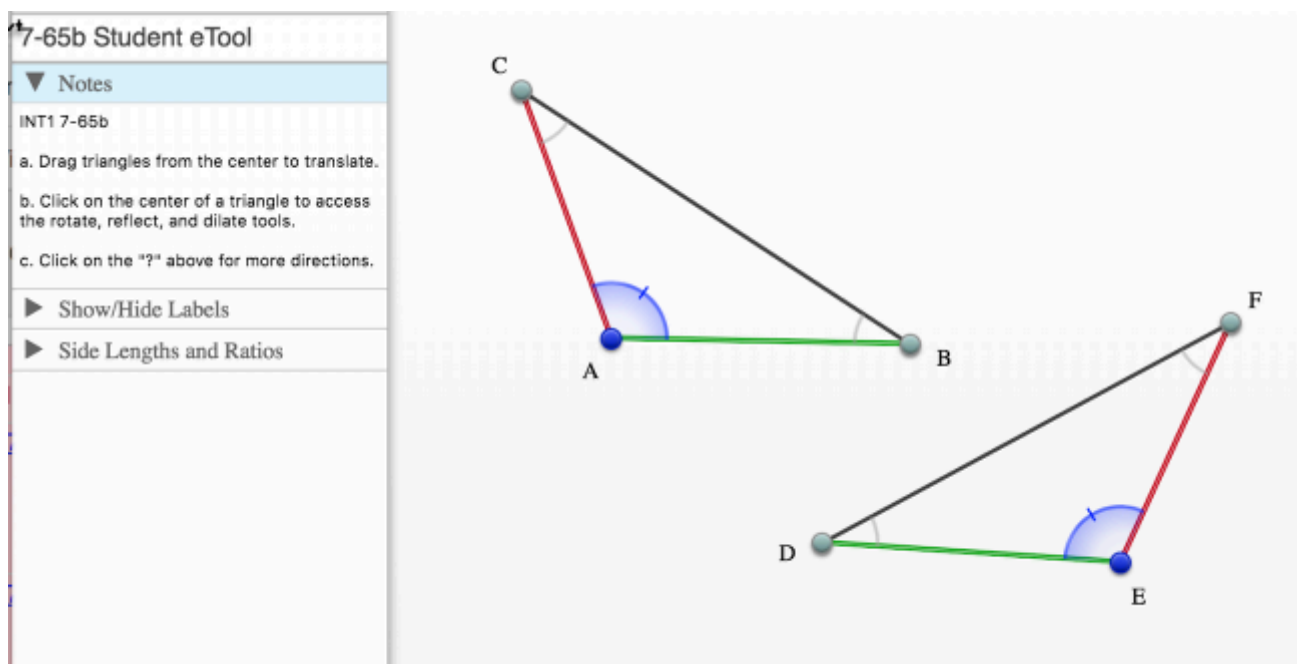
For more information on Similarity eTools, view [Similarity Toolkit \(CPM\)](#).

PROVING SAS TRIANGLE CONGRUENCE

INT1 7-65a Student eTool (CPM):



INT1 7-65b Student eTool (CPM):



PROVING ASA TRIANGLE CONGRUENCE

INT1 7-66 Student eTool (CPM):

7-66 Student eTool

▼ Notes

INT1 7-66

a. Given: Red sides and green and blue angles

b. Drag triangles from the center to translate.

c. Click on the center of a triangle to access the rotate, reflect, and dilate tools.

d. Click on the "?" above for more directions.

► Show/Hide Labels

► Side Lengths and Ratios

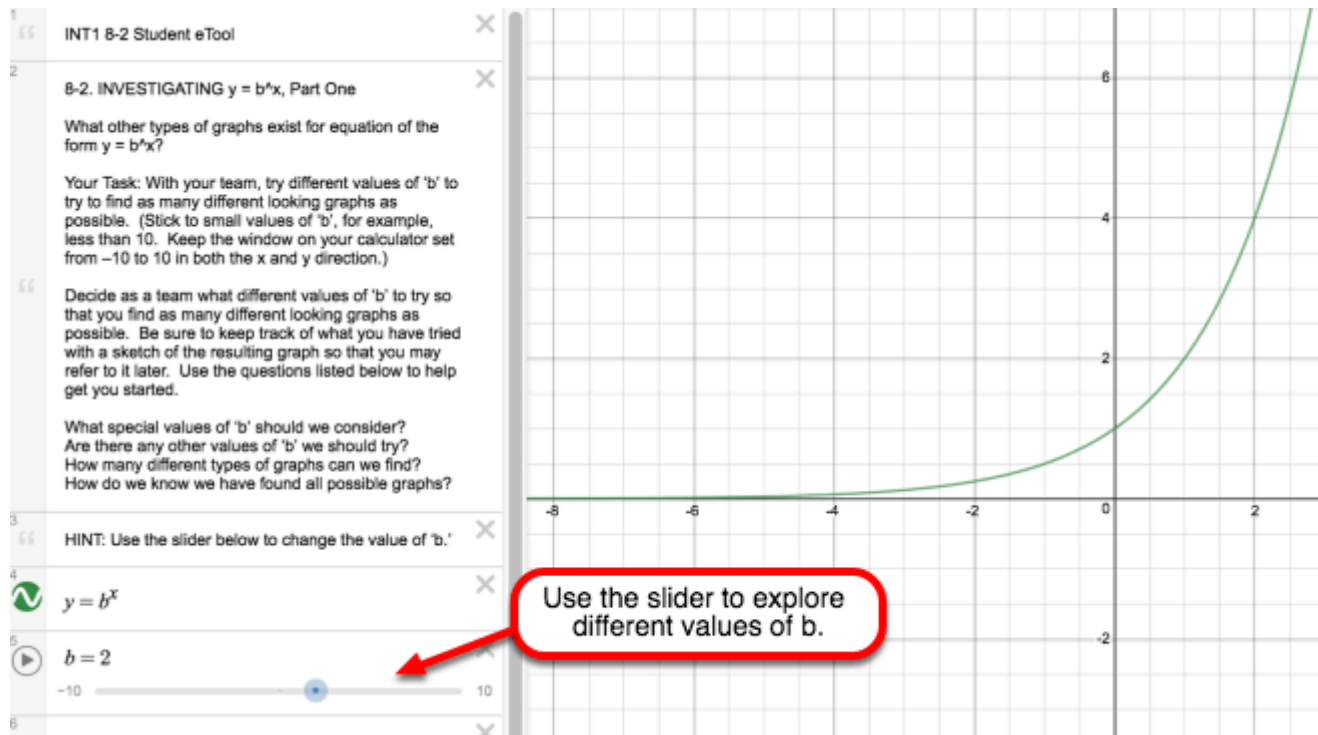
Chapter 8

INT1 8.1.1: 8-2 Student eTool (Desmos)

Click on the link below to access eTool.

[8-2 Student eTool \(Desmos\)](#)

Explore different values of b in problem 8-2.

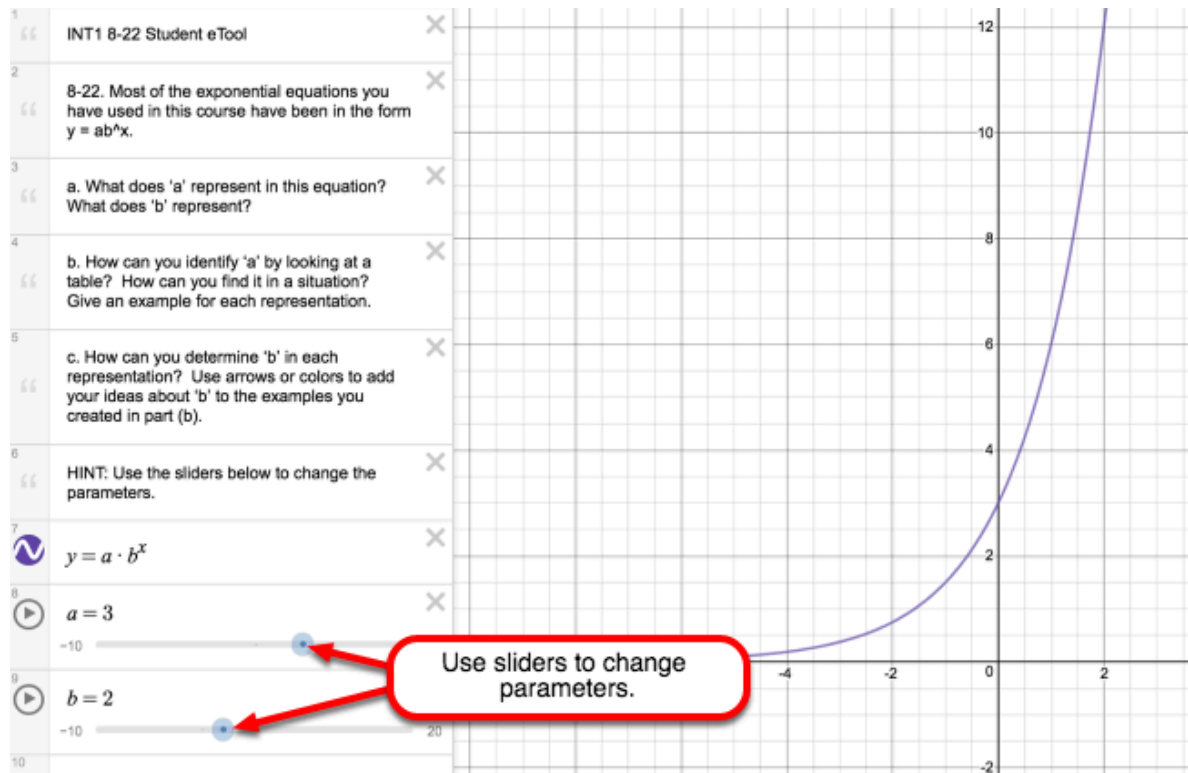


INT1 8.1.2: 8-22 Student eTool (Desmos)

Click on the link below to access eTool.

[8-22 Student eTool \(Desmos\)](#)

Explore problem 8-22 with the eTool.

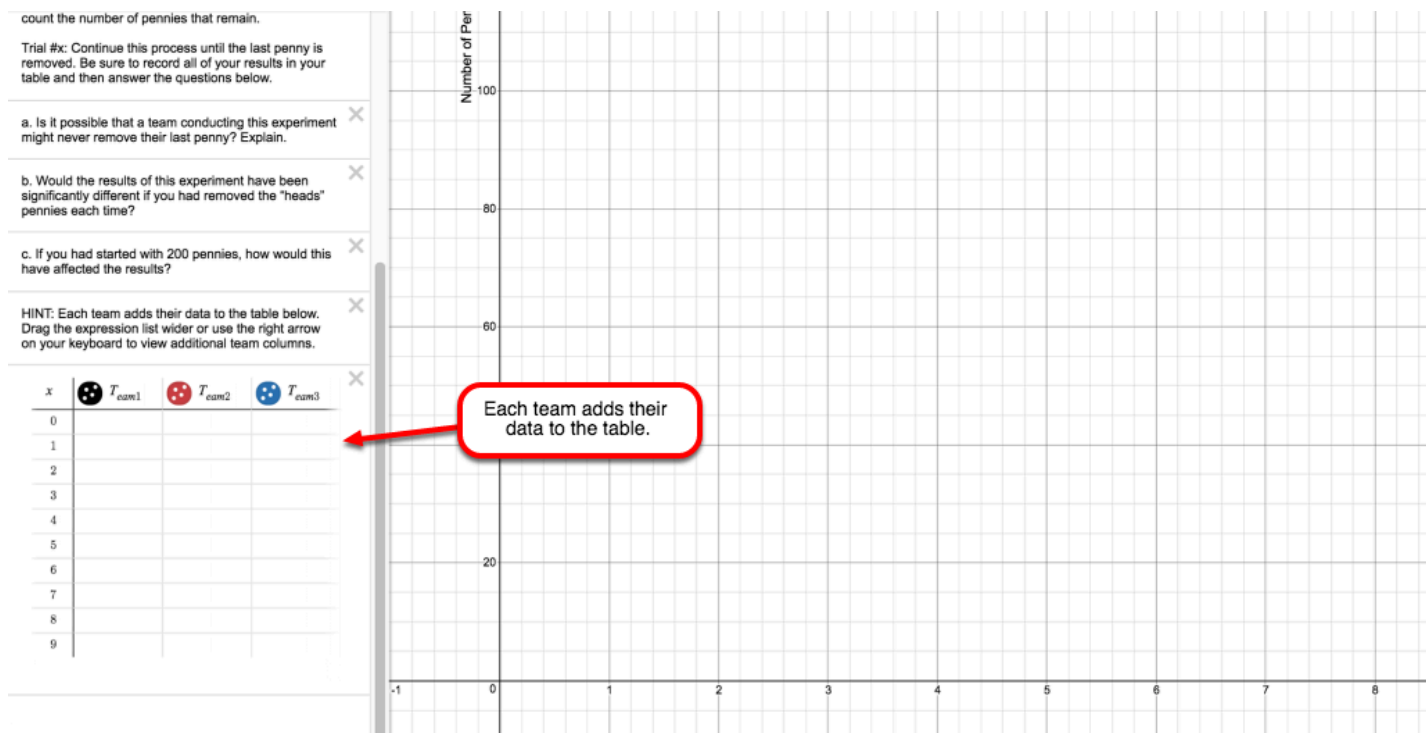


INT1 8.1.4: 8-54 & 8-55 Student eTool (Desmos)

Click on the link below to access eTool.

[8-55 & 8-55 Student eTool \(Desmos\)](#)

Decide what your dependent and independent variables are for “The Penny Lab” data your team collected, clearly label them, and graph your data.

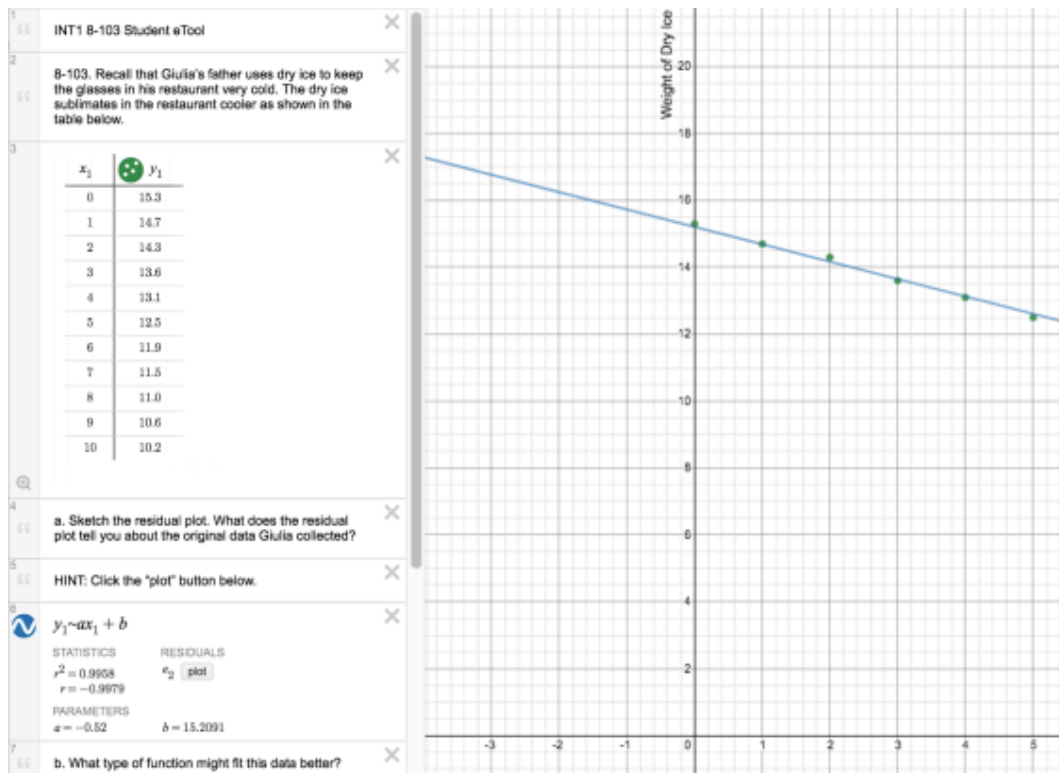


INT1 8.2.2: 8-103 Student eTool (Desmos)

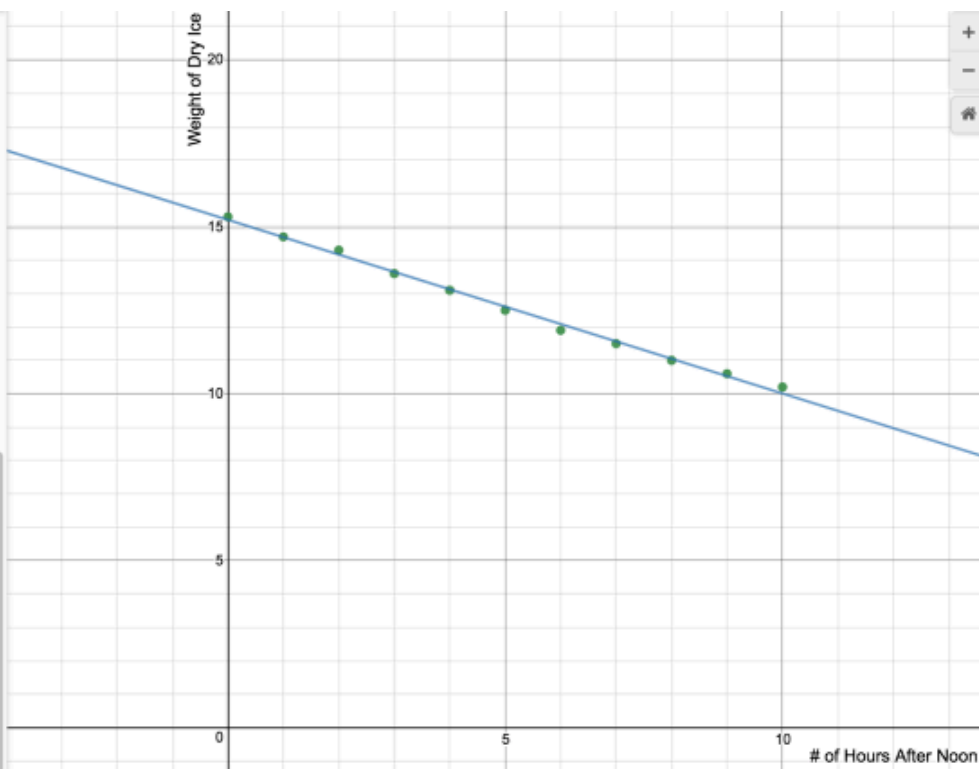
Click on the link below:

[8-103 Student eTool \(Desmos\)](#)

INT1 8-103 Student eTool (Desmos):



PARAMETERS	$a = -0.52$	$b = 15.2091$
7		
8	b. What type of function might fit this data better?	
9	c. Use your calculator to determine the exponential regression equation. Add this graph to the scatterplot sketch. Be sure to label the graph with the equation.	
10	HINT: Click the circle to the left of line 10.	
11	<input checked="" type="radio"/> $y_1 \sim ab^{x_1} + c$	
12	STATISTICS	RESIDUALS
13	$R^2 = 0.9985$	e_1 <input type="button" value="plot"/>
14	PARAMETERS	
	$a = 17.0737$	$b = 0.964261$
	$c = -1.71856$	

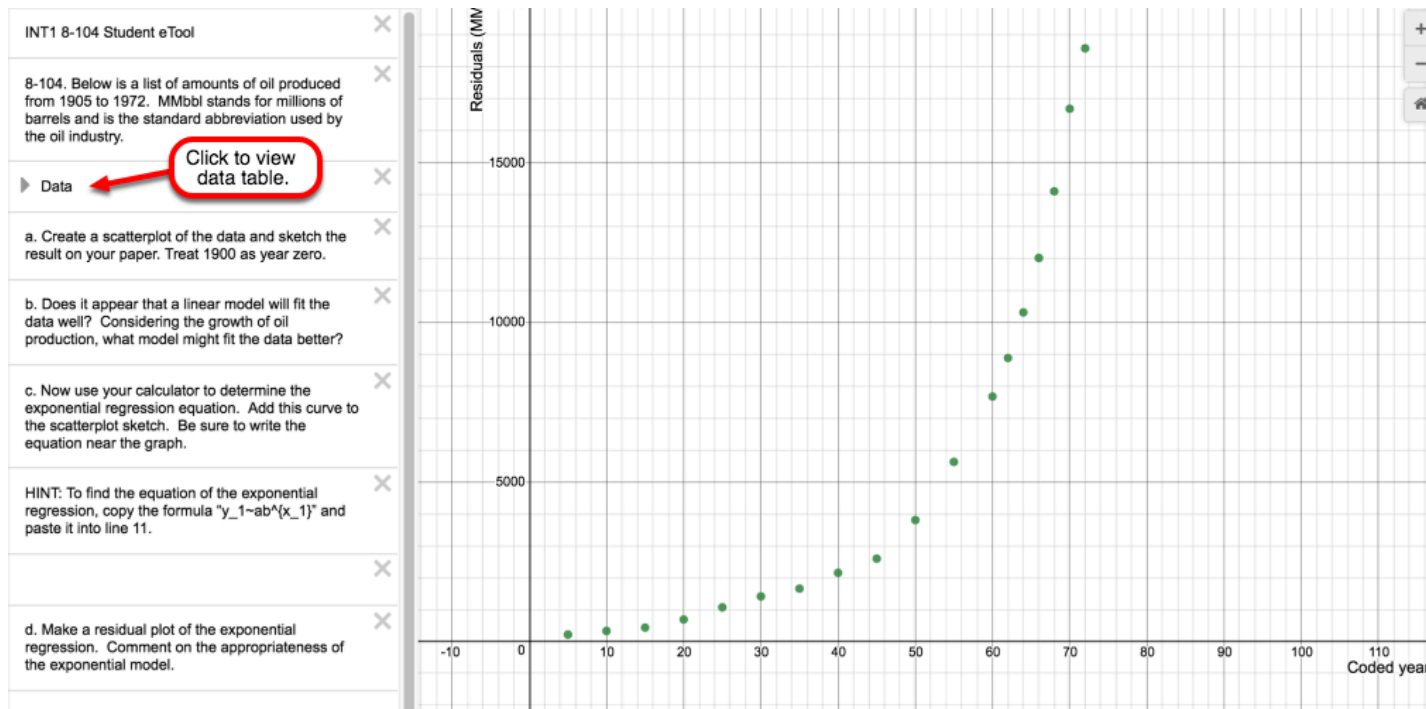


INT1 8.2.2: 8-104 Student eTool (Desmos)

Click on the link below:

[8-104 Student eTool \(Desmos\)](#)

INT1 8-104 Student eTool (Desmos):

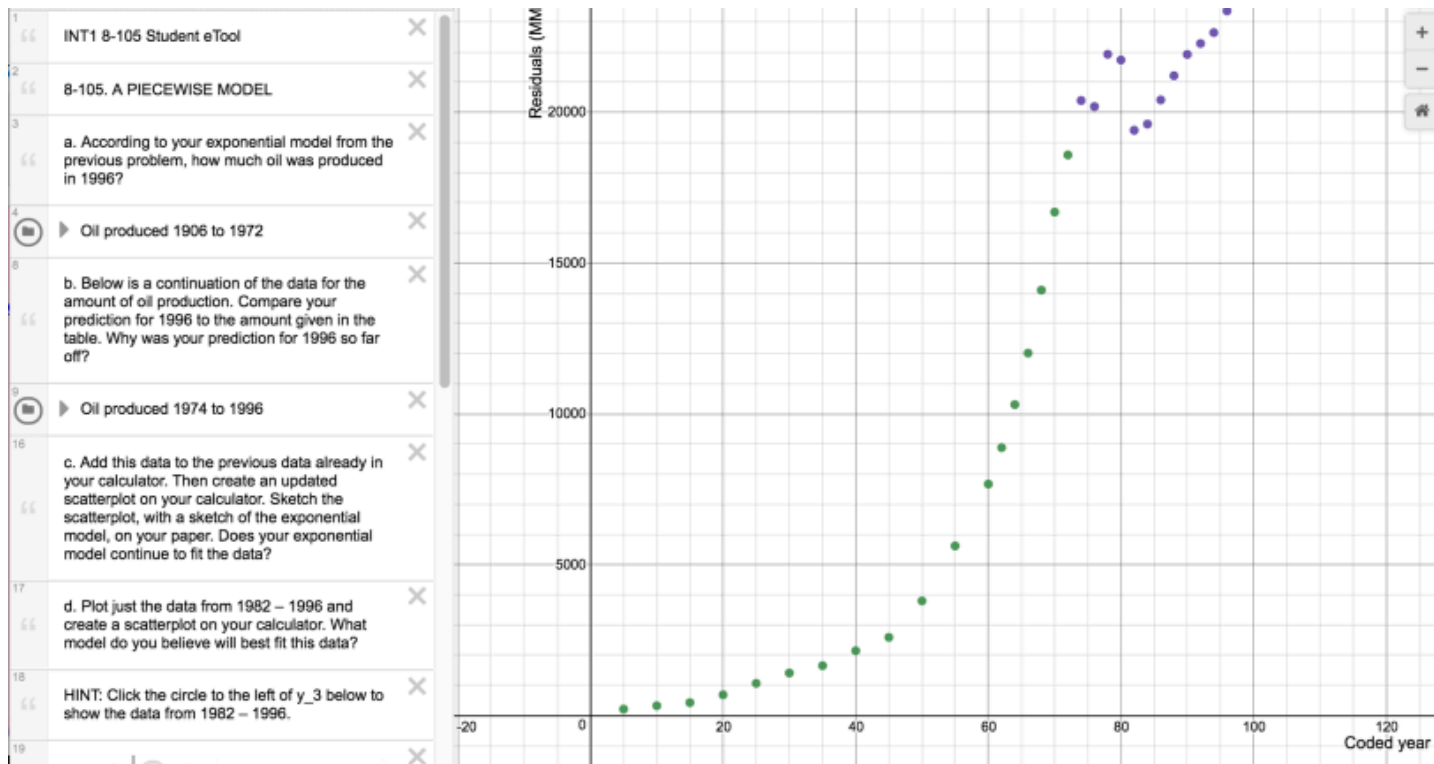


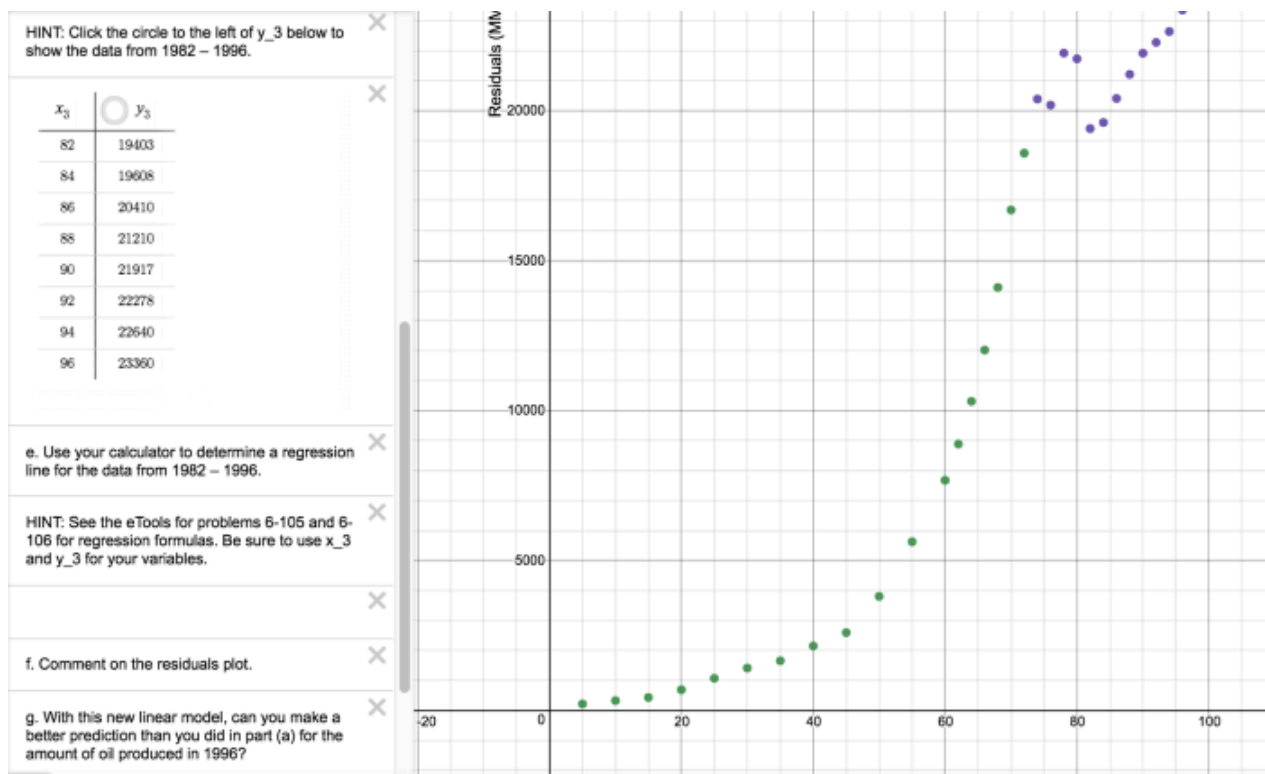
INT1 8.2.2: 8-105 Student eTool (Desmos)

Click on the link below:

[8-105 Student eTool \(Desmos\)](#)

INT1 8-105 Student eTool (Desmos):







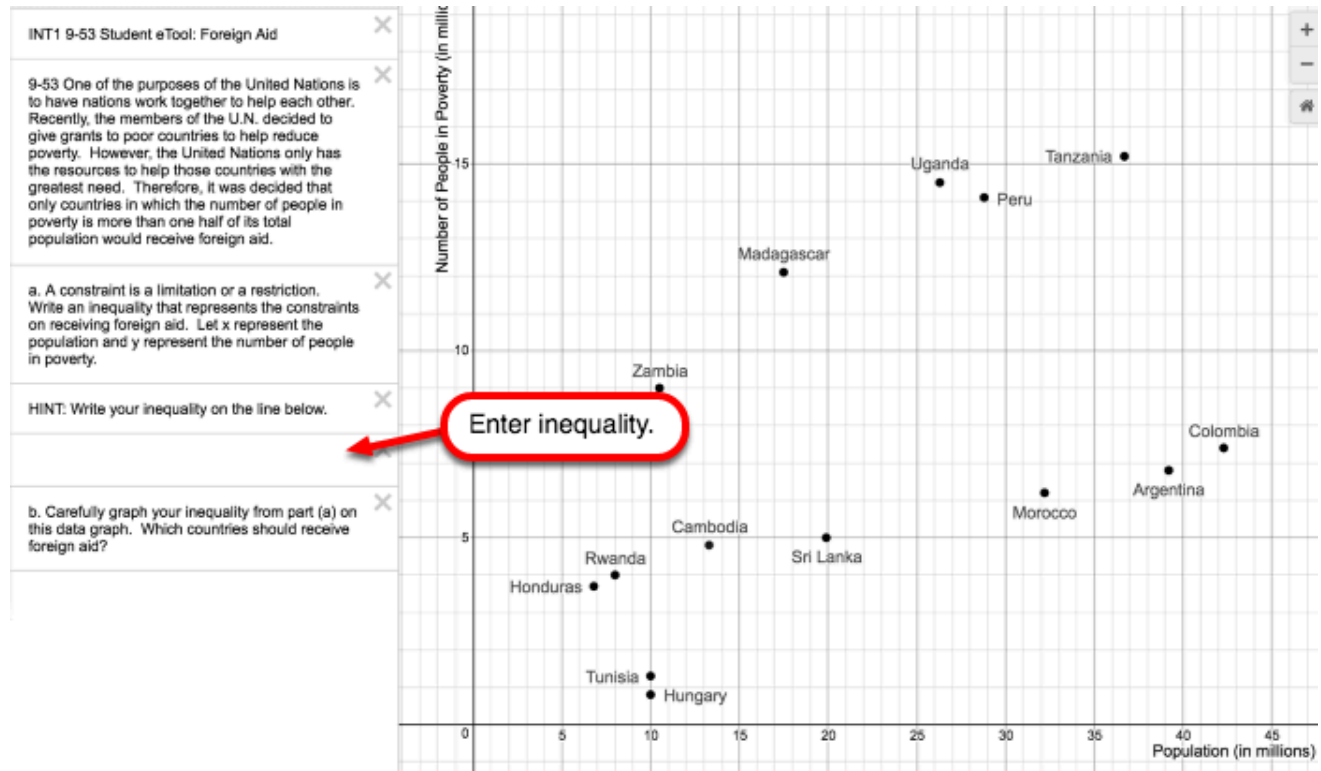
Chapter 9

INT1 9.2.2: 9-53 Student eTool (Desmos)

Click on the link below to access eTool.

[9-53 Student eTool \(Desmos\)](#)

Write your inequality in the eTool below to graph the constraints on receiving foreign aid. Then identify the countries that should receive foreign aid.



INT1 9.3.2: 9-78 Student eTool (Desmos)

Click on the link below to access eTool:

[9-78 Student eTool \(Desmos\)](#)

Your team must determine where to send the search and rescue teams. Look carefully for information that will help determine where the balloon might be found. Identify the probable landing sight on the map.

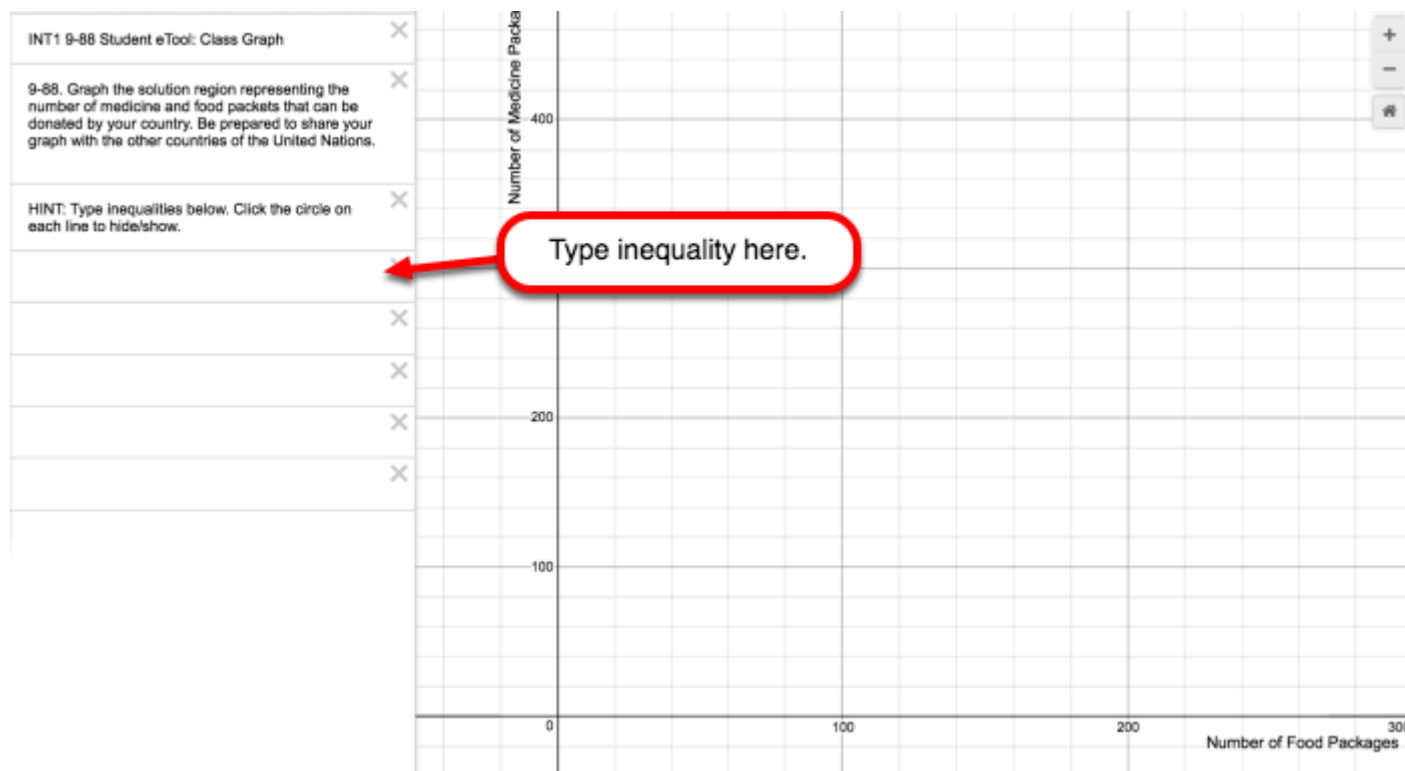


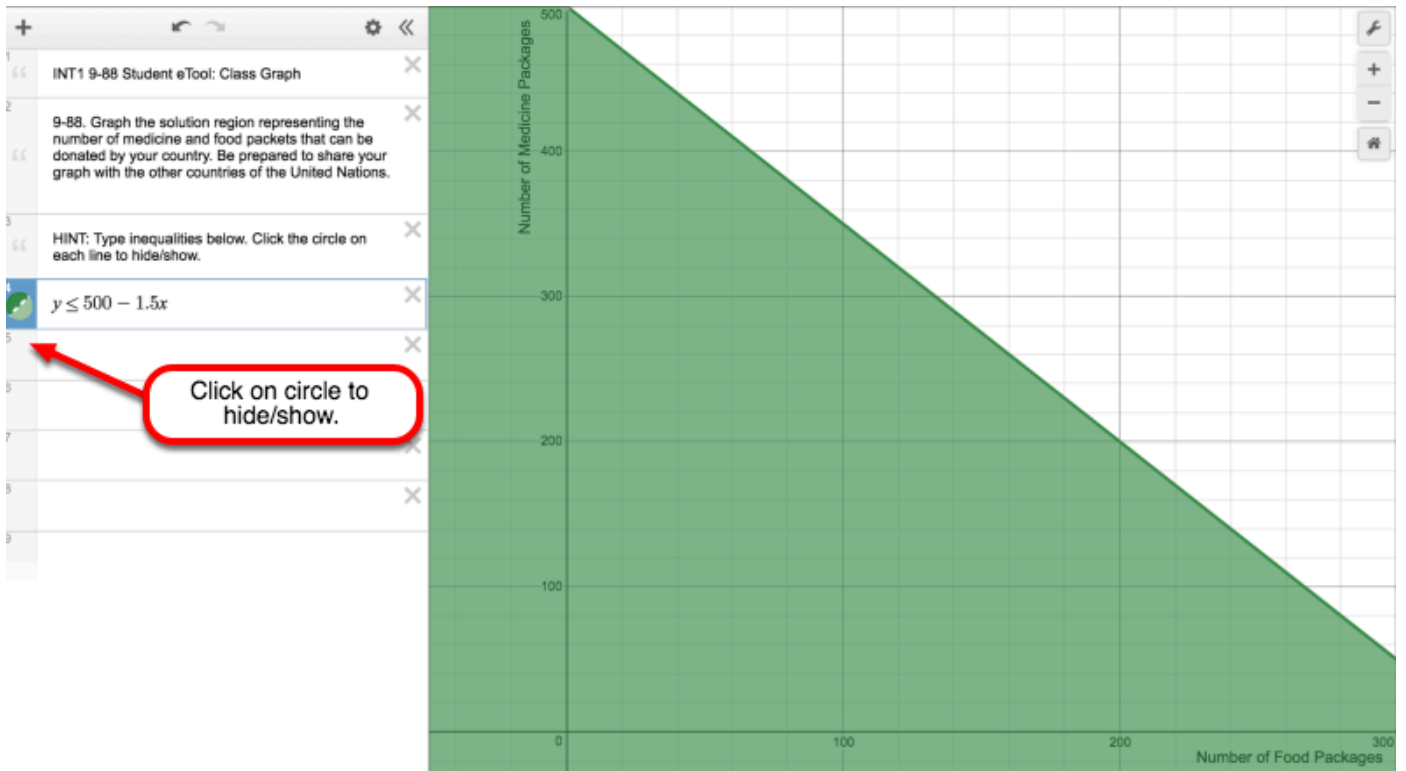
INT1 9.3.3: 9-88 Student eTool (Desmos)

Click on the link below to access eTool:

[9-88 Student eTool: Class Graph \(Desmos\)](#)

Type an inequality expressing how many food and medicine packages your country is able to give. Let x equal the number of food packages and y equal the number of medicine packages.







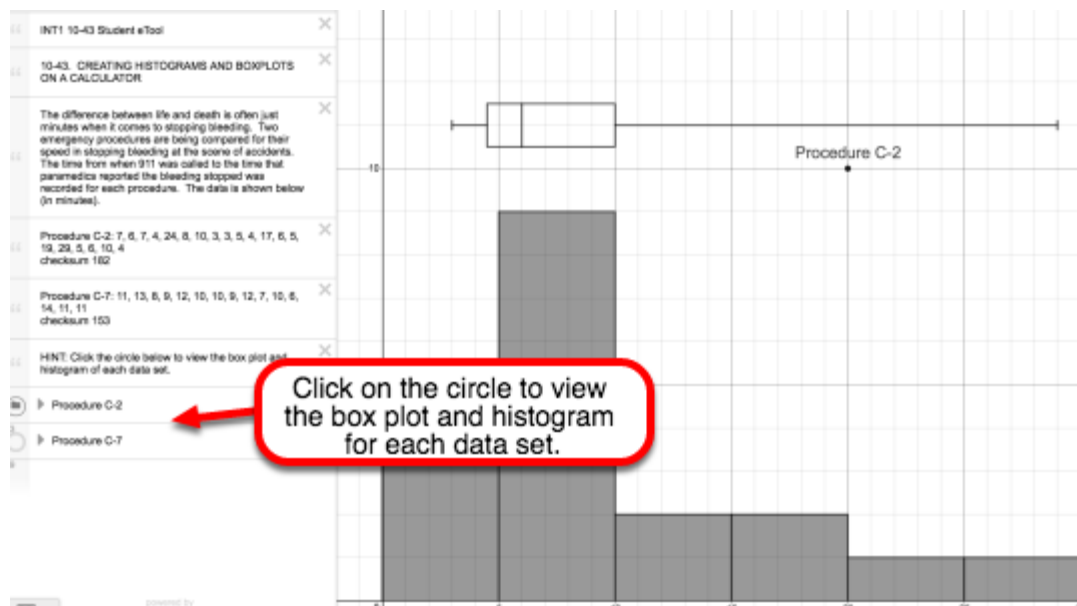
Chapter 10

INT1 10.1.3: 10-43 Student eTool (Desmos)

Click on the link below to access eTool:

[10-43 Student eTool \(Desmos\)](#)

Create histograms and box plots for Procedure C-2 and C-7 (the time from when 911 was called to the time the paramedics reported the bleeding stopped). Click on the circle to view the histogram and box plot for each dataset

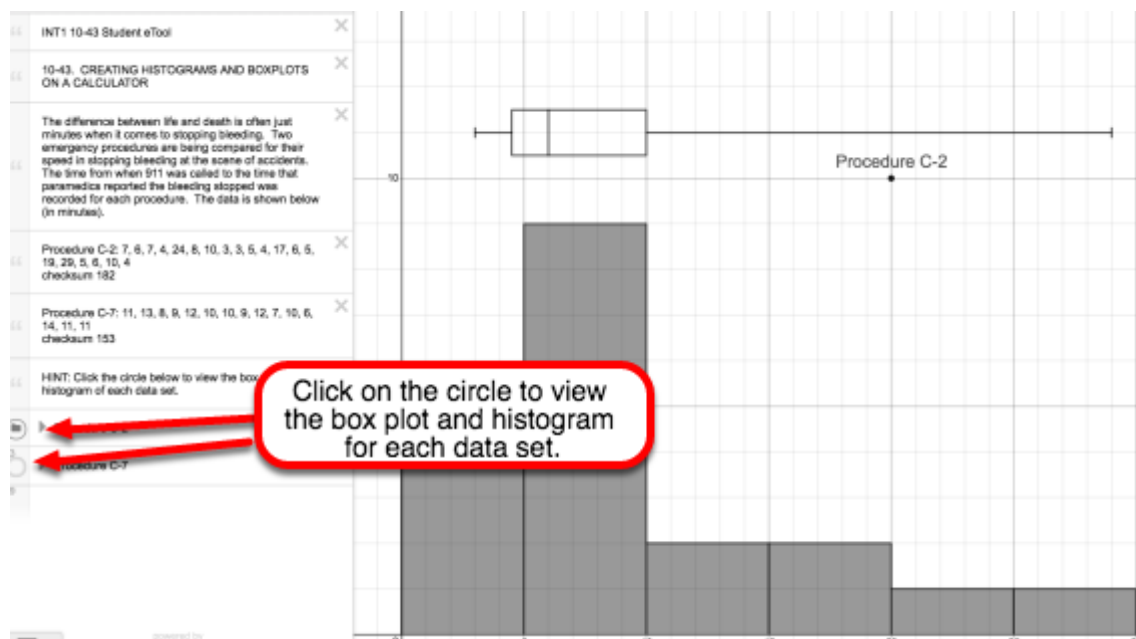


INT1 10.1.4: 10-60 Student eTool (Desmos)

Click on the link below to access eTool:

[10-60 Student eTool \(Desmos\)](#)

Create histograms and box plots for Sugar W and P datasets (biologist trying to determine which sugar is more successful in growing a particular eukaryotic cell). Click on the circle to view the histogram and box plot for each dataset.



Chapter 11

INT1 11.2.6: 11-116 Student eTool (Desmos)

Click on the link below to access eTool:

[11-116 Student eTool \(Desmos\)](#)

Write an inequality for each of the four constraints. Graph using eTool.

INT1 11-116 Student eTool

11-116. PARKING LOT SHUTTLES
 The celebration organizers must decide how many buses and trams to lease in order to shuttle people from the parking lot to the parade route. They are working under a number of constraints:

- There are at most 8 trams available.
- There are at most 30 shuttle buses available.
- It takes 4 staff members to safely load and operate a tram, while it takes only one operator for a shuttle bus. There are at most 50 staff members available for this duty.
- Basic insurance costs \$10,000. Each tram costs an additional \$1000 in insurance. However, each shuttle bus results in a \$1000 discount from the basic insurance. The organizers have a budget of \$15,000 to spend on insurance.

a. Write an inequality for each of the four constraints above. Graph the system of inequalities on the resource page, and show the solution region. What are three different combinations of trams and buses that will meet all four constraints above?

b. You have many solutions to choose from in part (a). But which combination of trams and buses will allow the organizers to shuttle the greatest number of people? Each shuttle bus holds 30 people at a time, while each tram holds 100 people. Both vehicles take the same amount of time to load and shuttle people. How many shuttles and how many buses should the organizers lease in order to shuttle the most people?