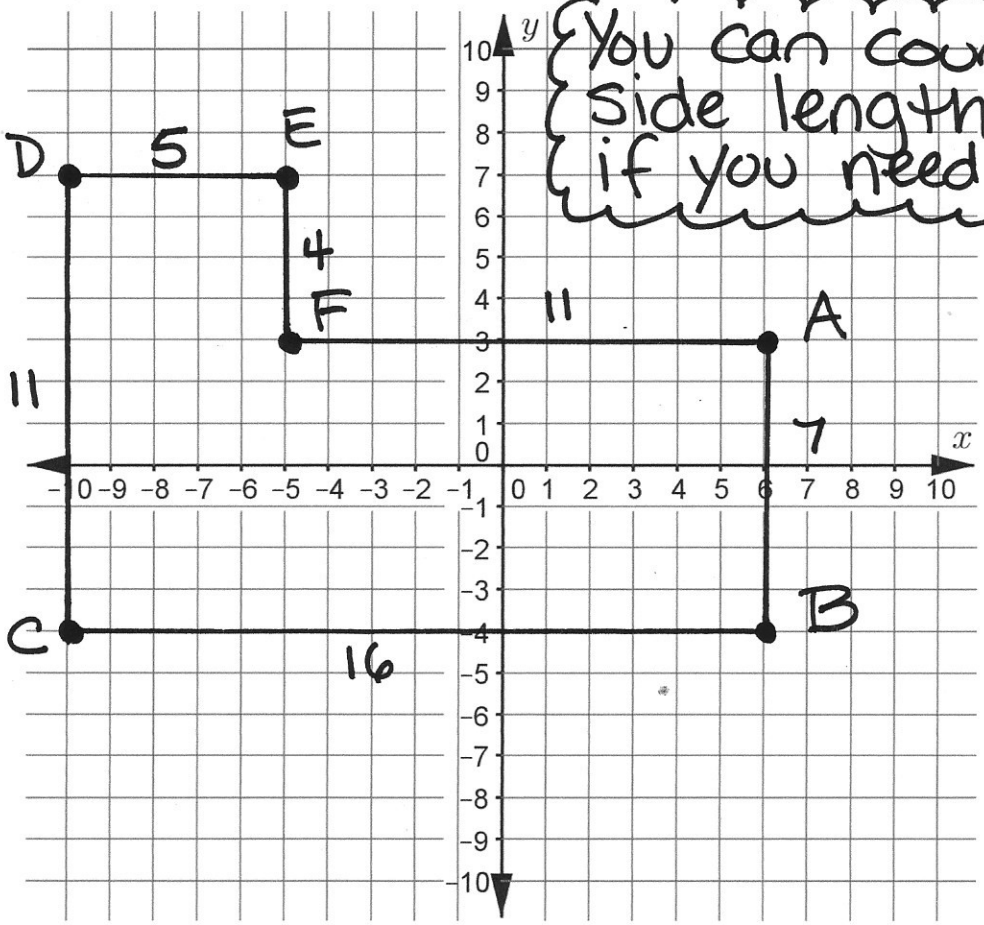
I can draw polygons on the coordinate plane when given the vertices.

Name: _____ Date: _____ Period: _____

Amelia is making a drawing to determine the length of a fence needed to go around her garden. Using the given coordinates, draw an outline of her garden (polygon *ABCDEF*) and determine the total length of fencing needed. Show all work neatly and completely to justify your answer.

A (6, 3)
B (6, -4)
C (-10, -4)
D (-10, 7)
E (-5, 7)
F (-5, 3)



A (6,3) > Change in Y of 7 units
B (6,-4) > Change in X of 16 units
C (-10,-4) > Change in Y of 11 units
D (-10,7) > Change in X of 5 units
E (-5,7) > Change in Y of 4 units
F (-5,3) > Change in X of 11 units
A (6,3)

Total Perimeter = 54 units

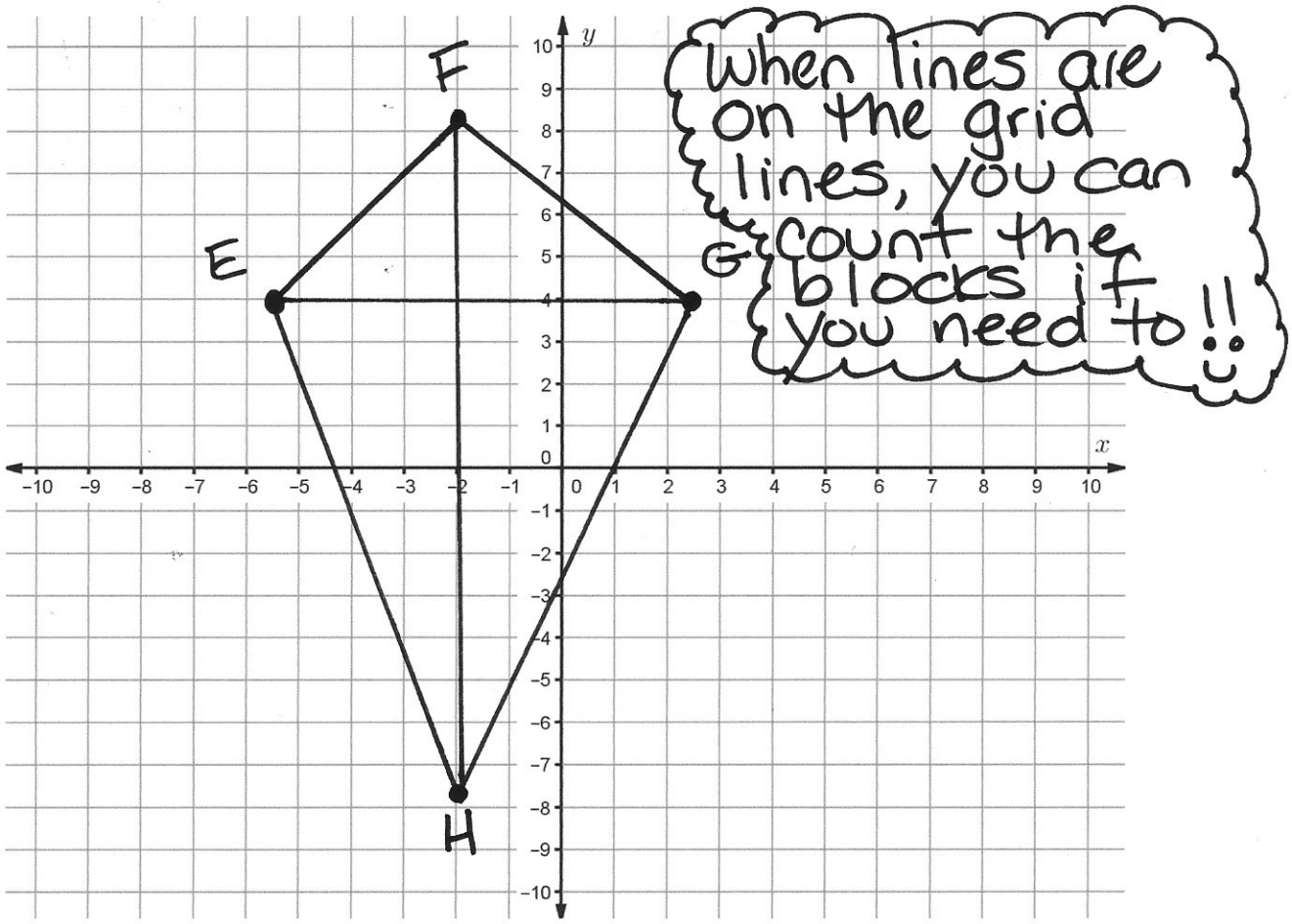
I can find the length of a side of a polygon graphed on the coordinate plane.

Name: _____ Date: _____ Period: _____

The coordinates of the vertices of polgyon *EFGH* are:

E (-5.5, 4) *F* (-2, 8.25) *G* (2.5, 4) *H* (-2, -7.75)

1. Graph the polygon and label the vertices.



2. Find the length of each diagonal ($\overline{EG}$ and $\overline{FH}$). Show your work clearly or explain how you found the lengths.

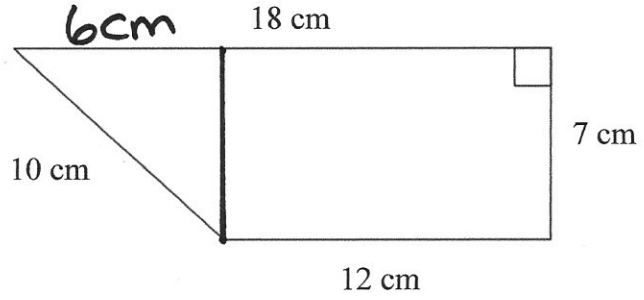
E (-5.5, 4) and G (2.5, 4) > Change in x of 5.5 + 2.5
So, $\overline{EG}$ is 8 units long.

F (-2, 8.25) and H (-2, -7.75) > Change in y of 8.25 + 7.75
So, $\overline{FH}$ is 16 units long.

I can determine the area of squares and rectangles.
I can calculate the area of triangles.
I can calculate the area of special polygons by breaking the polygon into familiar shapes.

Name: _____ Date: _____ Period: _____

Find the area of the trapezoid and the parallelogram by composing into rectangles or decomposing into triangles or other shapes as needed. Show your work neatly and completely



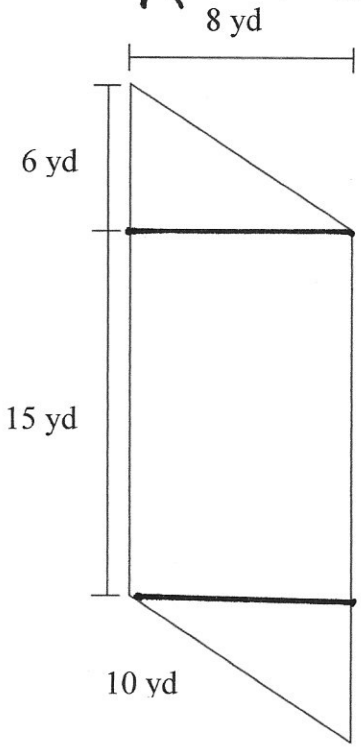
△
$A = \frac{1}{2}bh$
$A = \frac{1}{2} \cdot 6 \cdot 7$
$A = 3 \cdot 7$
$A = 21\ cm^2$

▭
$A = bh$
$A = 12 \cdot 7$
$A = 84 cm^2$

△ + ▭ = Total Area
$21 + 84 = 105\ cm^2$

OR

$A = \frac{1}{2}h(b_1 + b_2)$
$A = \frac{1}{2} \cdot 7 (18 + 12)$
$A = \frac{1}{2} \cdot 7 (30)$
$A = 7 \cdot 15$ $A = 105 cm^2$



△
$A = \frac{1}{2}bh$
$A = \frac{1}{2} \cdot 6 \cdot 8$
$A = 3 \cdot 8$
$A = 24 yd^2$

▭
$A = bh$
$A = 15 \cdot 8$
$A = 120 yd^2$

△ + △ + ▭ = Total Area
$24 + 24 + 120 = 168\ yd^2$

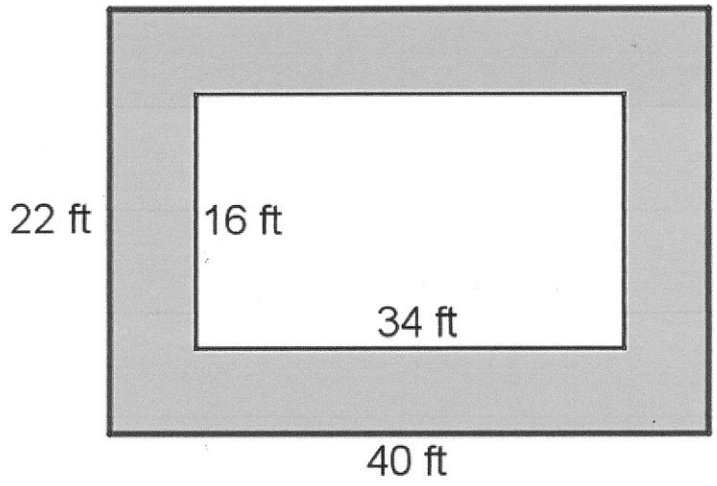
OR

$A = bh$
$A = (15 + 6)(8)$
$A = (21)(8)$
$A = 168\ yd^2$

I can take everything I've learned about area and apply it to real-world situations.

Name: _____ Date: _____ Period: _____

Mr. Moretti wants to cover the walkway around his swimming pool with tile. Determine how many square feet of tile he will need to cover the shaded portion of the diagram. Show your work neatly and completely.



You can cut the shaded area up into four small rectangles if you want.

$A = bh$

$A = 40 \cdot 22$

$A = 880\ ft^2$

This is all of the shaded and unshaded area.

$A = bh$

$A = 34 \cdot 16$

$A = 544\ ft^2$

This is all of the unshaded area.

$$\begin{array}{r} 880 \\ -\ 544 \\ \hline 336\ ft^2 \end{array}$$