

Name \_\_\_\_\_

Period \_\_\_\_\_ Date \_\_\_\_\_

## Homework 4.1.4

1) Factor the expressions below using a Diamond Problem and an Area Model. (if possible)

Write as: **Sum = Product**

a)  $2x^2 + 3x - 5$

b)  $x^2 - x - 5$

c)  $3x^2 + 13x + 4$

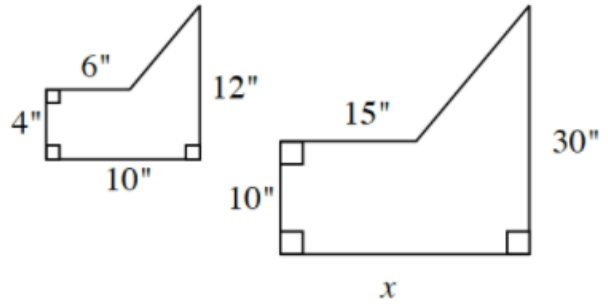
d)  $2x^2 + 5x - 7$

e)  $7x^2 - 7x - 42$

f)  $4x^2 - 400$

2) The two polygons at right are similar.

a) Determine the value of  $x$ .



b) Calculate the area of each polygon.

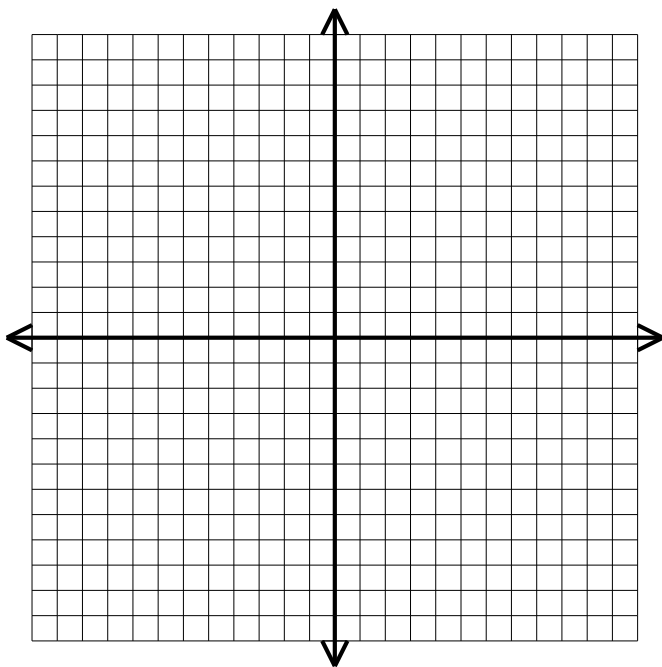
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3) Complete the table below for the function:  $y = x^2 - 5$

Use negative values, 0, and positive values, for  $x$ .

$x$					0				
$y$									

a) Sketch the graph of the function



b) This graph is an example of a **parabola**.

The **vertex** is the maximum or minimum point of a parabola.

Where is the vertex of the parabola you graphed in part (a)?