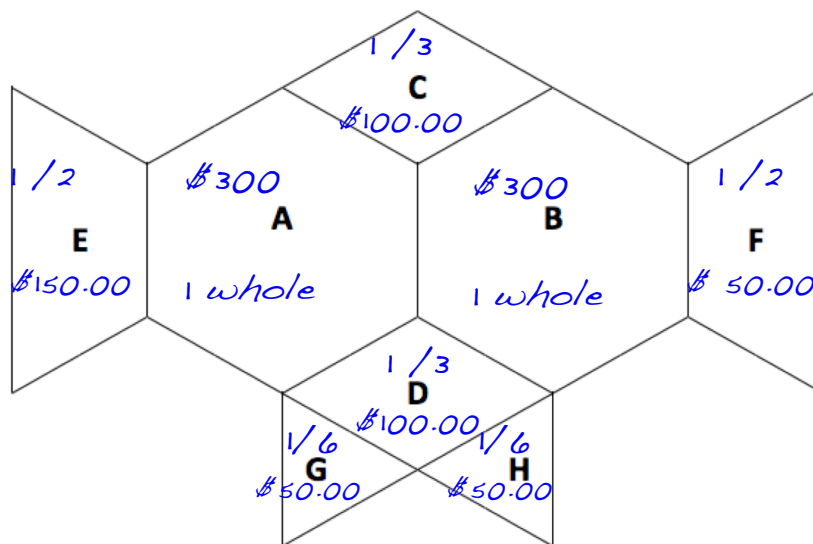


Name Student #5

### A Farmer's Fields

A farmer's fields are worth \$1,200 total. The fields are formed with the geometric figures shown below, which are composed of triangles of the same size and with all sides the same length. Each field's value is based on its size. What fraction of the total value is each field worth? How much is each field worth? Show and explain all of your mathematical thinking.



*I have to figure out what the fields are worth and the fraction of the fields. You can't solve this problem if you don't know the fractions. I will make a table and write the answers on it.*

*Every thing has to be equivalent  
Two trapezoids make one hexagon  
Two triangles make a rhombus  
So the diagram really has 4 hexagons*

*The 3, 6, 2 are the denominators*

$$\begin{array}{r} 300 \\ 4 \overline{) 1200} \\ \underline{1200} \\ 0 \end{array}$$

*So \$300 now you can do all the shapes*  
 $150 + 150 = 300$      $100 + 100 + 100 = 300$   
 $50 + 50 + 50 + 50 + 50 + 50 = 300$

$$3 \overline{) 300}$$

$$6 \overline{) 300}$$









$$2 \overline{) 300}$$

## Farmer's Fields

	Answers	Answers
Field	Fractions	Field values
A	1 whole 6/6	\$300
B	1 whole 6/6	\$300
C	1/3	\$100
D	1/3	\$100
E	1/2	\$150
F	1/2	\$150


G 1/6 \$50

\*My connections list #50 (I thought of 7)

- The diagram has 1 line of symmetry I put in.
- Shape names are hexagon  trapezoid  rhombus   
triangle 
- I know some percents - 100%  50% 
- I know some decimals - 1.00  .5 or .50 
- There are really 24 triangles in the diagram or 24 sixths

$$\begin{array}{r} \text{So } 24/6 = 4 \text{ hexagons, or } 24 \overline{) 1200} \\ 1200 \end{array}$$

This way you multiply 2, 6, 3 to get the trapezoid, hexagon, and rhombus values. I am correct.

6. 2 trapezoids have the same area as one hexagon 

7. You can't have a square field - no equivalent area

$$\begin{array}{l} 2 \times 50 = 100 \\ 3 \times 50 = 150 \\ 6 \times 50 = 300 \end{array}$$

This is how it works



$$1/2 + 1/2 = 2/2 = 1$$



$$1/3 + 1/3 + 1/3 = 3/3 = 1$$



$$1/6 + 1/6 + 1/6 + 1/6 + 1/6 + 1/6 = 6/6 = 1$$