Name Key

Math 306

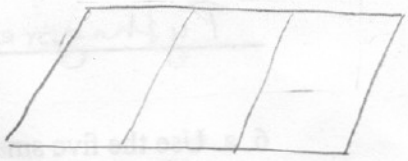
Quiz 4-Fractions, Proportions, & Geometry

1. Explain how the quotient meaning of fractions differs from the ratio meaning. (3 pts)

The quotient meaning of fractions is how many equal parts the whole one has, while the ratio meaning is a comparision such as # boys to # girls

2. If  is equal to $\frac{2}{3}$ of a unit, sketch the figure that would represent 1 unit. (2 pts)

or



3. Are all trapezoids types of parallelograms? Explain. (2 pts)

No, Parallelograms must have 2 pair of opposite sides being parallel & congruent & a trapezoid only needs to have at least 1 pair of opposite sides parallel

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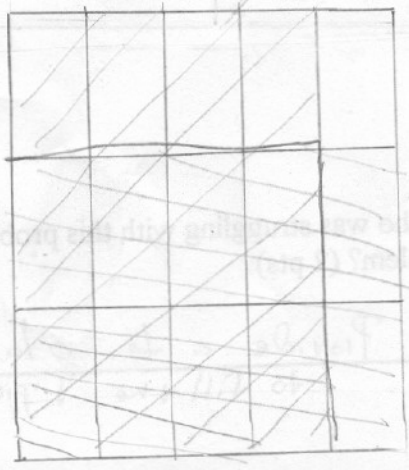
4. Use an array/area model to represent $\frac{4}{5} \bullet \frac{2}{3}$. (2 pts)



$\frac{8}{15}$

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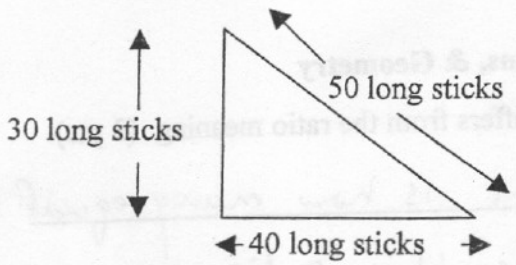
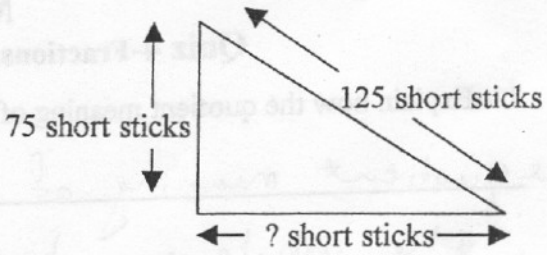
5. Kari used a different set of short and long sticks to measure her study carol. She drew the pictures of her study carol below:

a. What is the length of the base of the study carol measured in short sticks?
(Show your work 2 pts)





ISS
Duds

$\frac{30}{40} = \frac{75}{?}$

$40 \cdot 75 = 30 \cdot X$

$\frac{3000}{30} = \frac{30X}{30} \Rightarrow X = 100$

5.a. 100 short sticks

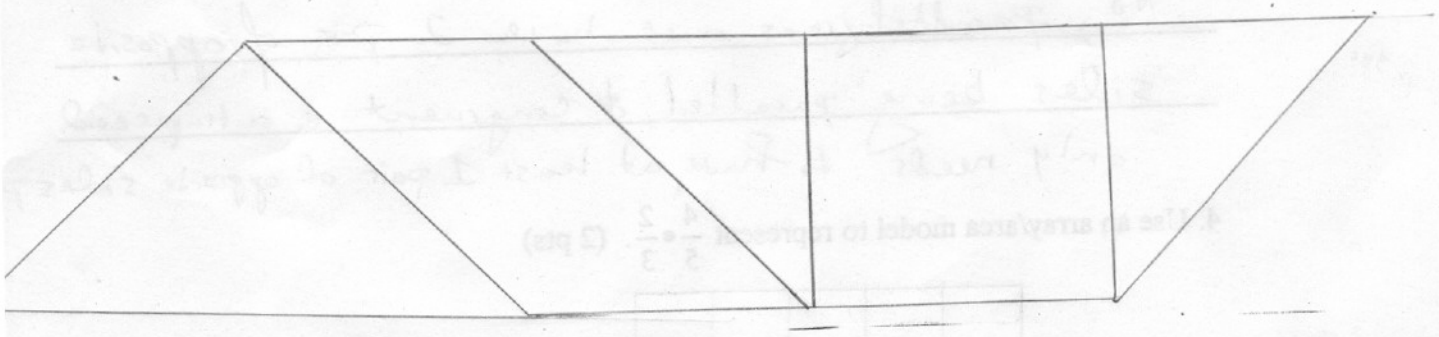
b. Explain a second way to find the length of the base in short sticks. (2 pts)

Scale factor since $30 \times (2.5) = 75$ then $40 \times 2.5 = 100$

Pythagorean theorem $75^2 + ?^2 = 125^2$

$?^2 = 10{,}000$ so $? = 100$

6. a. Use the five smallest tangrams pieces to create a parallelogram that is not a rectangle, sketch your arrangement. (2 pts)



b. If you were working with a student who was struggling with this problem what are two ways you could modify this problem? (2 pts)

Reduce the # of pieces to 3, or work with a simpler shape such as a square.

Provide a template for the students to fill the pieces in