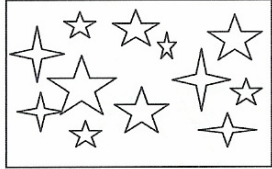


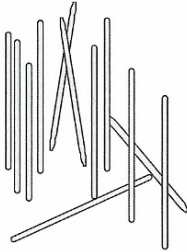
MAT 3420 – Teaching Mathematics in Grades PreK-6  
**Fractions: Concepts & Computations**

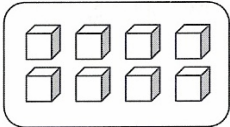
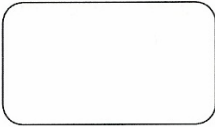
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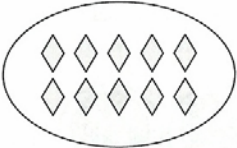
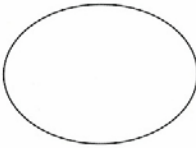
Complete the following assignment on this page.

- 1. Use reasoning to solve each problem, even if you can get the answer some other way. The goal is the reasoning *process*, not just the answer. Briefly explain your reasoning.**

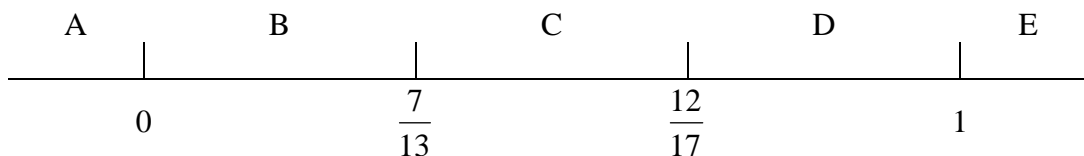
a.  =  $1\frac{1}{3}$        $\frac{2}{3}$  is how many stars?

b.  =  $1\frac{1}{3}$        $\frac{5}{9}$  = how many sticks?

c.  =  $2\frac{2}{3}$        = 2

d.  =  $1\frac{1}{4}$        =  $\frac{3}{8}$

2. The values on the number line below are not drawn to scale. *Without doing any computation*, determine the region in which each answer will lie. Explain your reasoning for each.

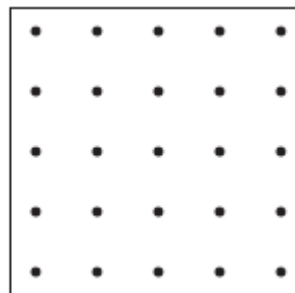


a.  $\frac{7}{13} + \frac{12}{17}$  Which region? \_\_\_\_\_ Why?

b.  $\frac{7}{13} \cdot \frac{12}{17}$  Which region? \_\_\_\_\_ Why?

c.  $\frac{7}{13} - \frac{12}{17}$  Which region? \_\_\_\_\_ Why?

3. Use the geoboard (one whole) to find four *different*, nonequivalent fractions that sum to one. Write the number sentence and represent the fractions on the geoboard.



\_\_\_\_\_

4. There are some children at a birthday party. Who gets more juice? A child at a table where 4 children are sharing 3 containers of juice fairly, or a child at a table where 5 children are sharing 4 containers of juice fairly? The containers of juice are the same size. Justify your response. Include drawings as appropriate.

5. Find three fractions between:

$$\frac{2}{9}$$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

$$\frac{2}{3}$$

$$1$$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

$$1\frac{1}{2}$$

$$\frac{1}{8}$$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

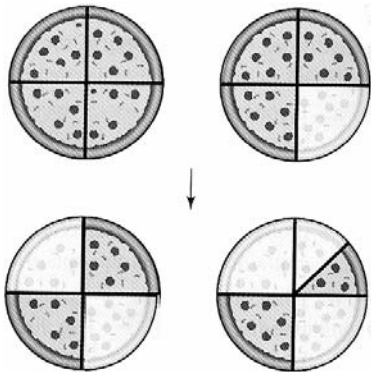
$$\frac{1}{9}$$

6. Suppose your student writes the following word problem for  $1\frac{3}{4} \div \frac{1}{2}$ :

*There are  $1\frac{3}{4}$  pizzas left. I eat half of the pizza that is left. How many pieces of pizza did I eat?*

The student shows the following diagram saying that it shows that  $1\frac{3}{4} \div \frac{1}{2} = 3\frac{1}{2}$ .

- a. Even though the student gets the correct answer to the division problem, explain why the word problem is not a correct word problem for  $1\frac{3}{4} \div \frac{1}{2}$ .



- b. Write a correct word problem for  $1\frac{3}{4} \div \frac{1}{2}$  that is about  $1\frac{3}{4}$  pizzas.