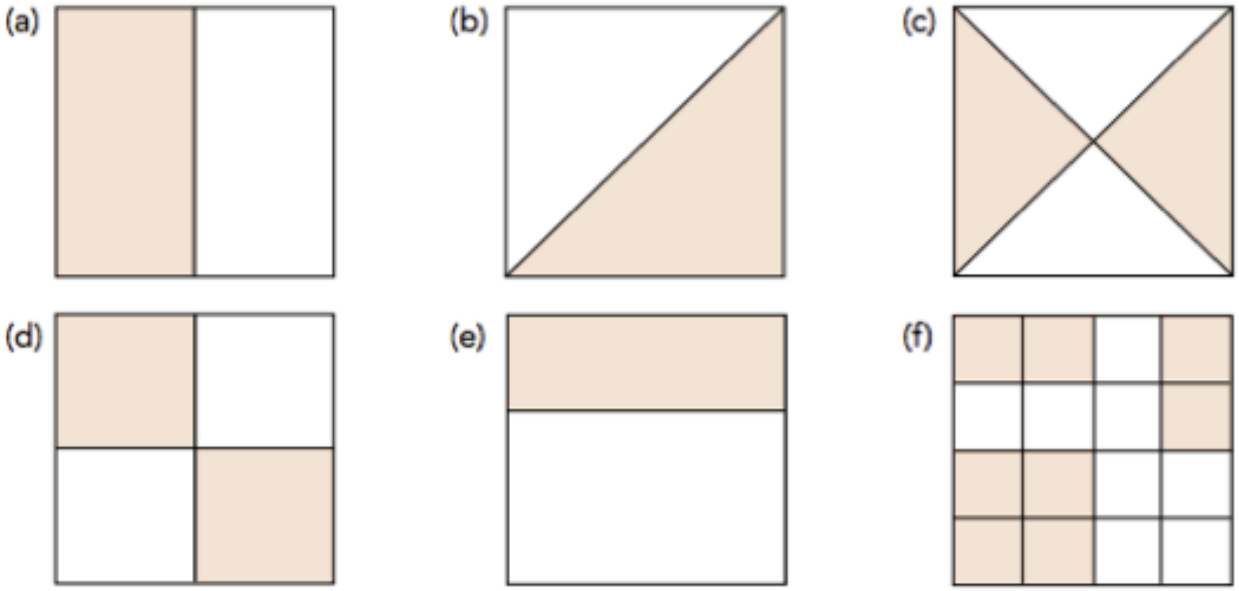
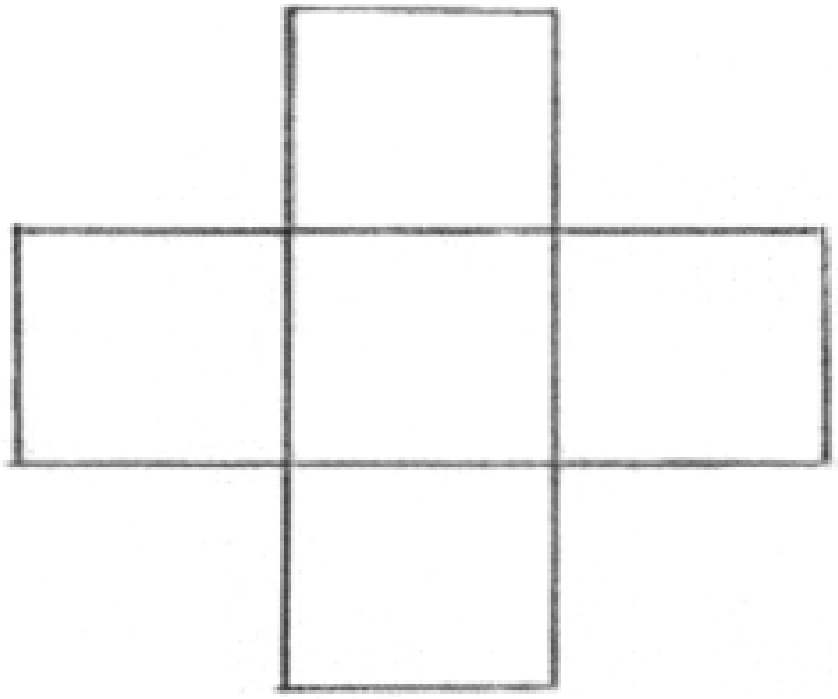
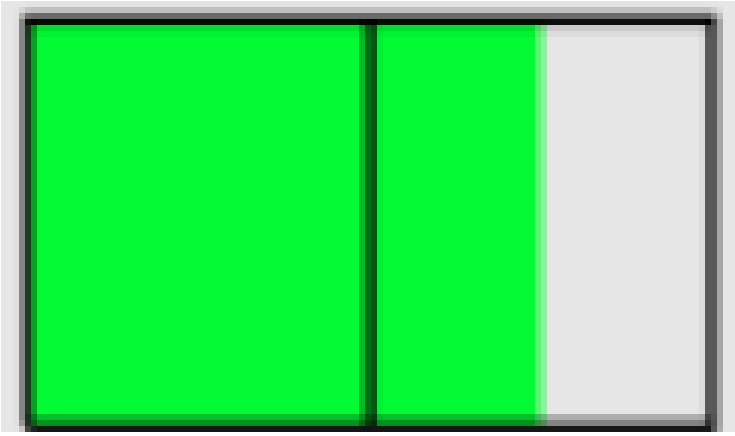
Task 1 – Half vs. Fair Share



Task 2 – Color $\frac{1}{4}$



Task 3 – Unit Fractions: What Fraction is Shaded?



Task 6 – Christopher's Dilemma

On Mondays, the Hershey Chocolate Factory gives away FREE SUPER-SIZED HERSHEY'S CHOCOLATE CANDY BARS. Christopher would always rush to the factory on Mondays to try to be the first in line. He would eat his free candy bar so quickly that the it was gone before he knew it!

One Tuesday, Christopher saw his friend Frank still enjoying his free candy bar. Christopher asked Frank, "How do you still have a candy bar left from yesterday?" Frank replied, "I only eat half each day." "Oh," Christopher said. "Maybe I should try that."

The next Monday, Christopher ran to the factory and got his FREE SUPER-SIZED HERSHEY'S CHOCOLATE CANDY BAR, but this time he only ate half of it. On Tuesday, he ate the other half.

Wednesday, Christopher noticed that Frank still eating his free chocolate. "Frank, how do you still have a candy bar left?" inquired Christopher. "I told you, I only eat half each day," Frank responded. "That's what I did: I ate half the candy bar on Monday, and the other half on Tuesday. But now it's Wednesday and I don't have any more left."

"My candy bar can last forever, but I finish it on Sunday so I can get a new candy bar on Monday" responded Frank. How do you think Frank does this?

Task 4 – Dad's Cookies #2959

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Dad baked some cookies.

- He eats one hot out of the oven and leaves the rest on the counter to cool.
- Dave comes into the kitchen hungry, finds the cookies, and eats half a dozen of them.
- Then Kate wanders by, feeling rather hungry as well, and she eats half as many as Dave did.
- Jim and Eileen walk through next, and each of them eats one third of the remaining cookies.
- Hollis comes into the kitchen and eats half of the cookies that are left on the counter.
- Then Mom wanders by and eats just one cookie.
- Dad comes back and exclaims: "Hey! There is only one cookie left!"

How many cookies did Dad bake in all?

Task 5 – Filling Beauty's Seats #3271

www.mathforum.org/POW

Tickets to Fairview Elementary School's production of Beauty and the Beast went on sale this week. The school theater has 24 rows of 16 seats each.

- 1/3 of the seats have been sold to students for $3 each.
- 1/4 of them have been sold to adults for $5 each.
- 1/6 of them were given to the teachers.

If everyone who already has a ticket goes to the show:

- What fraction of the seats in the theater will be filled?
- How many seats are still available?

EXTRA: How much money has been collected so far? If all the remaining seats are sold to students, how much money will be raised altogether?

Task 7 – Maximum Chocolate Party

There are three tables at the Maximum Chocolate Party, and there are 1, 2, and 3 chocolate bars (identical in size and flavor) on those tables. See the diagram below. Each guest, on arrival, chooses a table and sits down. When the last guest is seated, the chocolate from each table is divided equally among those sitting at the table.

When *you* arrive, analyze the tables as if you were to be the last guest, to maximize your chocolate intake.

Complete the table below. Decide how much chocolate you would get at each table, and circle the highest number (if the numbers are equal, choose one as you wish).

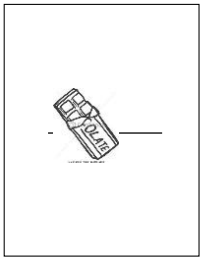

Table 1

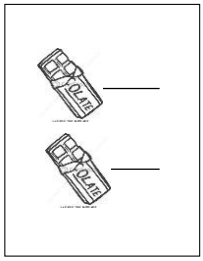

Table 2

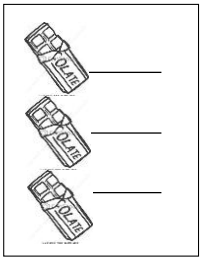

Table 3

Guest Number	Amount of Chocolate (in Chocolate Bars) the Guest Would Receive at Each Table		
	Table 1	Table 2	Table 3
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

from the April 2013 issue of mathematics teaching in the MIDDLE SCHOOL

Maximum Chocolate Party Task: Blaine, Larry and Natalya Vinogradova. 2013. "Sweet Work with Fractions." Mathematics Teaching in the Middle School 18 (April): 484-91.