

Name:

Math Olympiad Cooking! – Problem Due: – April 22, 2004

Pancakes Gone Crazy!

You've decided to celebrate Mother's Day by making pancakes for mom in bed! You have the following recipe:

1	cup	flour
2	tsp	sugar
2	tsp	baking powder
1/2	tsp	salt
2	tsp	cinnamon
1	cup	milk
1	tbsp	butter
2	tsp	vanilla
2		eggs
1/2	cup	blueberries, washed and drained

You've found another grown-up or older sibling to help out with the cooking, and they're in charge of the cooking. Before you are ready to help, they've already measured out the ingredients except for the flour and milk. "Back Away!" you say. "I'm going to finish this recipe!" You look for a measuring cup, but the only clean ones you find are one that is '3 cups' and one that is '8' cups. Since this is for mom, you want to make sure you get **exactly** 1 cup of flour, because last year you made a huge mistake adding too much pepper to the soup. How can make sure to do this with *only* these two measuring cups? Think quickly, it's almost breakfast time!

If instead you only find two measuring cups, one that is '3 cups' and one that is '9 cups', how would you calculate exactly '1 cup' of any ingredient?

Is it even possible? Why not? What values can you calculate with these new measuring cups?