

MATHCOUNTS[®] Problem of the Week Archive

Pi(e) Day – March 13, 2023

Problems

March 14, or 3/14, is Pi Day because the first few digits of the number pi are 3.14! While the day celebrates the mathematical type of pi, it is a little more fun to celebrate the delicious pie that you can eat. Try out the problems below about pie in honor of Pi Day!

Joana has four different types of fruit: apple, blueberry, pumpkin and apricot. She needs to make a pie that contains *at least* one type of fruit. However, she wants the pie to taste good! Joana does not like the combinations of apple with blueberry or blueberry with pumpkin, so those flavor combinations are not allowed. How many different combinations of flavors can she use?

Joana makes 4 pies, and now it's time to bake them! She has two ovens, and each can only hold one pie at a time. Joana has 4 pies, which take 7, 10, 15 and 20 minutes to bake. What is the shortest amount of time in which she can bake all four pies?

Joana's pies are smelling delicious! But she has family coming to her house soon, and she needs to cut them. If she has 6 family members coming to her house, and each family member wants a piece of every pie, what is the minimum number of cuts needed on a single pie to feed everyone, including herself (7 people in total)? The pieces of the pie do not need to be equal in size.

These problems were submitted by a MATHCOUNTS volunteer, Ishir Garg. Thank you, Ishir!