MATHCOUNTS®

Problem of the Week Archive

Pizza Party Predicament – September 23, 2013

Problems

The MATHCOUNTS Club sponsor at your school is planning a pizza party for the club's10 Mathletes® to kick off the year. The local pizza place has medium and large as the two size options for ordering pizzas. Unlimited toppings are free on either size pizza, so the club needs to decide what size pizzas to order.

The restaurant currently has a special that if you purchase a pizza, each additional pizza of equal or smaller size is just $5. An 8-slice medium pizza pie has a diameter of 11 inches and costs $10.99. A 16 slice large pizza pie costs $15.99 and has a diameter of 16 1⁄2 inches. What is the area of each size pizza? Express your answer as a decimal to the nearest hundredth.

You would like to order enough pizza so that each club member receives no less than the equivalent of two slices of large pizza. If you decide to get just medium pizzas, how many pizza pies would you need to purchase? How many pizzas would you need if you purchased only large pizzas?

Which option from your solution above results in the best price per square inch?