

QUESTION 1 (Source: AMC)

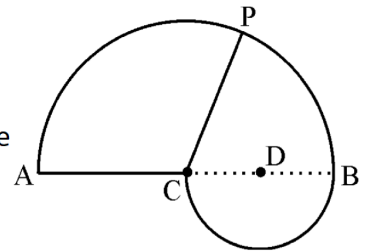
Henry's Hamburger Haven offers its hamburgers with the following condiments: ketchup, mustard, mayonnaise, tomato, lettuce, pickles, cheese, and onions. A customer can choose one, two, or three meat patties and any collection of condiments. How many different kinds of hamburgers can be ordered?

QUESTION 2 (Source: AMC)

On a certain math exam, 10% of the students got 70 points, 25% got 80 points, 20% got 85 points, 15% got 90 points, and the rest got 95 points. What is the difference between the mean and the median score on this exam?

QUESTION 3 (Source: MATHCOUNTS)

Segment AB has midpoint C, and segment BC has midpoint D. Semi-circles are constructed with diameters AB and BC to form the entire region shown. Segment CP splits the region into two sections of equal area. What is the degree measure of angle ACP? Express your answer as a decimal to the nearest tenth.

**QUESTION 4 (Source: State Math)**

If, $\frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \frac{1}{25} + \cdots = s$ then what is the value of the sum $\frac{1}{4} + \frac{1}{16} + \frac{1}{36} + \frac{1}{64} \cdots$.

QUESTION 5 (Source: AMC)

Let x and y be two-digit integers such that y is obtained by reversing the digits of x . The integers x and y satisfy $x^2 - y^2 = m^2$ for some positive integer m . What is $x + y + m$?