



**MAA100**

MATHEMATICAL ASSOCIATION OF AMERICA

CELEBRATING A CENTURY OF  
ADVANCING MATHEMATICS



# American Mathematics Competition 8

“The AMC 8 (America Mathematics Competition, level 8) is a 25-question, 40-minute, multiple choice examination in middle school mathematics designed to promote the development of problem-solving skills. The AMC 8 provides an opportunity for middle school students to develop positive attitudes towards analytical thinking and mathematics that can assist in future careers. Students apply classroom learned skills to unique problem-solving challenges in a low-stress and friendly environment. “ - AMC 8 web site

**Date: November 15, 2019**

**Place: Rancho Pico MPR**

**Time: During Advisory and Brunch**

**Applications due to Mrs. McHorney by October 25th**

For more information you can visit the MAA webs site at [www.maa.org/AMC8](http://www.maa.org/AMC8)

After your application has been processed, past AMC8 test questions will be shared with you via Google Drive. This will allow you to study and prepare for the test.

Cut here

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**AMC 8 Registration Form**

**Due Oct. 25 to room 604**

Name \_\_\_\_\_ Grade \_\_\_\_\_

Student ID # \_\_\_\_\_ Advisory Teacher \_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_

The average age of 5 people in a room is 30 years. An 18-year-old person leaves the room. What is the average age of the four remaining people?

- (A) 25                      (B) 26                      (C) 29                      (D) 33                      (E) 36

A mixture of 30 liters of paint is 25% red tint, 30% yellow tint and 45% water. Five liters of yellow tint are added to the original mixture. What is the percent of yellow tint in the new mixture?

- (A) 25                      (B) 35                      (C) 40                      (D) 45                      (E) 50



A cube with 3-inch edges is to be constructed from 27 smaller cubes with 1-inch edges. Twenty-one of the cubes are colored red and 6 are colored white. If the 3-inch cube is constructed to have the smallest possible white surface area showing, what fraction of the surface area is white?

- (A)  $\frac{5}{54}$                       (B)  $\frac{1}{9}$                       (C)  $\frac{5}{27}$                       (D)  $\frac{2}{9}$                       (E)  $\frac{1}{3}$

A square and a triangle have equal perimeters. The lengths of the three sides of the triangle are 6.1 cm, 8.2 cm and 9.7 cm. What is the area of the square in square centimeters?

- (A) 24                      (B) 25                      (C) 36                      (D) 48                      (E) 64

Gage skated 1 hr 15 min each day for 5 days and 1 hr 30 min each day for 3 days. How long would he have to skate the ninth day in order to average 85 minutes of skating each day for the entire time?

- (A) 1 hr (B) 1 hr 10 min (C) 1 hr 20 min (D) 1 hr 40 min (E) 2 hr

How many whole numbers between 99 and 999 contain exactly one 0?

- (A) 72                      (B) 90                      (C) 144                      (D) 162                      (E) 180

A five-legged Martian has a drawer full of socks, each of which is red, white or blue, and there are at least five socks of each color. The Martian pulls out one sock at a time without looking. How many socks must the Martian remove from the drawer to be certain there will be 5 socks of the same color?



- (A) 6                      (B) 9                      (C) 12                      (D) 13                      (E) 15