MATHCOUNTS®

2025 CHAPTER COMPETITION
Team Round Problems 1–10

School _____

Team
Members _____ , Captain

_____

_____

_____

DO NOT BEGIN UNTIL YOU ARE INSTRUCTED TO DO SO.

This section of the competition consists of 10 problems which the team has 20 minutes to complete. Team members may work together in any way to solve the problems. Team members may talk to each other during this section of the competition. This round assumes the use of calculators, and calculations also may be done on scratch paper, but no other aids are allowed. All answers must be complete, legible and simplified to lowest terms. The team captain must record the team's official answers on his/her own competition booklet, which is the only booklet that will be scored. If the team completes the problems before time is called, use the remaining time to check your answers.

Total Correct	Scorer's Initials

1. _____ tulips   Alex planted four times as many tulips as Patrick planted. Together, they planted 100 tulips. How many tulips did Patrick plant?

2. _____   All the students on the playground are wearing either long pants or shorts, and some are wearing a jacket. Here is a table where Sareet recorded how many students are wearing various items. What is the probability that a randomly selected student on this playground is wearing long pants and a jacket? Express your answer as a common fraction.

	Jacket	No Jacket
Pants	ⅢⅢ III	III
Shorts	ⅢⅢ II	ⅢⅢ ⅢⅢ

3. $ _____   Shey buys kazoos in packs of four for $3.00 and sells them in sets of three for $2.85. If she purchases 60 kazoos and sells them all, what is the amount of her profit?

4. _____ doughnuts   On Sunday, Ashton buys some doughnuts. On Monday, she gives $\frac{1}{2}$ of the doughnuts to Rachel. On Tuesday, she gives $\frac{1}{3}$ of the remaining doughnuts to Helen. If Ashton has 24 doughnuts left, how many doughnuts did she buy on Sunday?

5. _____   What is the probability of randomly selecting three distinct unit squares on a 3 × 3 grid and getting three unit squares in a row vertically, horizontally or diagonally? Express your answer as a common fraction.
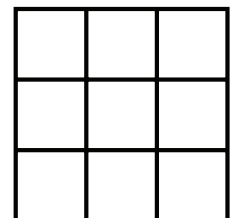
6. _____ years old Doris is twice as old as Boris and three times as old as Morris. If Boris is 8 years older than Morris, how old is Doris?

7. _____ ways In how many different ways can 18 be written as a sum of positive perfect squares, if order does not matter?

8. _____ Yining writes down an arithmetic sequence of 100 terms. The first 5 terms of the sequence are 32, 35, 38, 41 and 44. What is the sum of Yining's 100 terms?

9. _____ dimes Greg has some dimes, nickels and pennies. He has 3 more dimes than nickels and 6 more nickels than pennies. Currently, the average value of his coins is 7 cents per coin. How many dimes does Greg have?

10. _____ cm In concave quadrilateral ABCD below, AD = DC = 15 cm, AB = BC = 20 cm and AC = 24 cm. If P is any point in the plane, what is the minimum possible value of PA + PB + PC + PD?