
MATHCOUNTS

■ Chapter Competition ■
Practice Test 1
Target Round Problems

Name _____

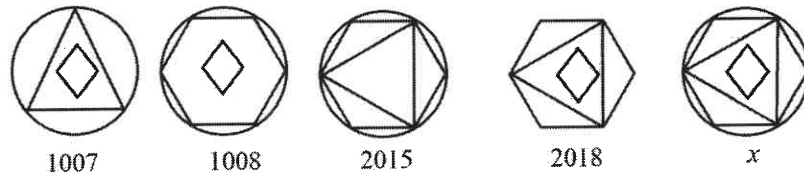
**DO NOT BEGIN UNTIL YOU ARE
INSTRUCTED TO DO SO.**

This round of the competition consists of eight problems, which will be presented in pairs. Work on one pair of problems will be completed and answers will be collected before the next pair is distributed. The time limit for each pair of problems is six minutes. The first pair of problems is on the other side of this sheet. When told to do so, turn the page over and begin working. Record your final answer in the designated space on the problem sheet. All answers must be complete, legible and simplified to lowest terms. This round assumes the use of calculators, and calculations may also be done on scratch paper, but no other aids are allowed.

Total Correct	Scorer's Initials

3. Alex ordered online 5 pounds of oranges and paid \$32.35. The fruit was marked 90% of water content when it was shipped. When the package arrived at his home, the measured water content was 80%. What was the actual price per pound did Alex pay for the oranges? Express your answer as the nearest dollar.

4. The symbols \bigcirc , \triangle , \diamond , and \hexagon represent four different integers. The number under each figure represents the sum of the numbers represented by the three figures. What is the value for x ?



5. Find the greatest whole number that MUST be a factor of the sum of any six consecutive positive odd numbers.

6. Figure 1 is formed by four congruent regular hexagons of side length of 2. Three vertices are connected to form triangle ABC (Figure 2). What is the area of triangle ABC ? Express your answer in simplest radical form.

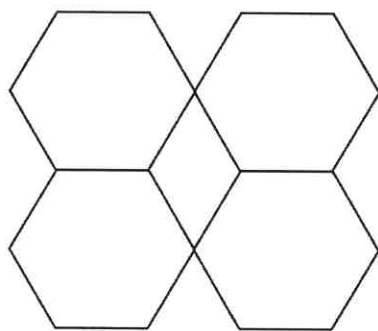


Figure 1

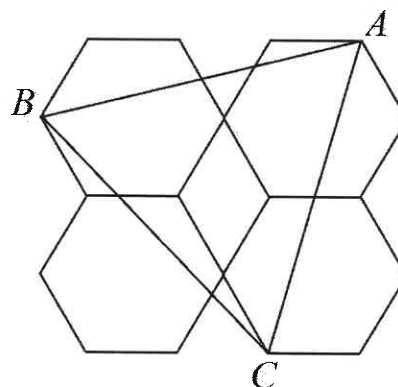


Figure 2

7. Alex and Bob were two men having a meal. Alex brought 3 loaves of bread, and Bob brought 2. These loaves of bread are identical. A third man, Charles, came and joined them. They together ate the whole 5 loaves. As Charles left, he paid \$20. How many dollars should Alex get?

8. Anna whispers her birth month to Bob, and birth date to Chris. The boys don't know one another's numbers but they do know that the all possible birth dates are as follows:

5/17
6/14 6/15
7/11 7/12
8/11 8/12 8/14

Chris says, "I know when Anna's birthday is"!

Then Bob says, "At first, I didn't know when Anna's birthday was, but I know now".

When is Anna's birthday?