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# MATHCOUNTS®

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2014  
■ Chapter Competition ■  
Target Round  
Problems 1 & 2

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Name \_\_\_\_\_

School \_\_\_\_\_

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

This section 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. 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. Record only final answers in the blanks in the left-hand column of the problem sheets. If you complete the problems before time is called, use the time remaining to check your answers.

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Total Correct	Scorer's Initials

**Raytheon**

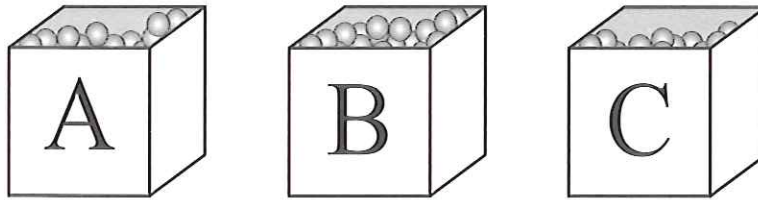
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1. \_\_\_\_\_ marbles      Box A contains 142 marbles, box B contains 152 marbles and box C contains 136 marbles. Marbles are transferred only from box B to box C. What is the least number of marbles that must be transferred so that box C contains more marbles than each of the other two boxes?



2. \_\_\_\_\_      What is the largest prime that divides both  $20! + 14!$  and  $20! - 14!$ ?