



# Warm-Up GS

1. \_\_\_\_\_ What is the positive difference between the largest 4-digit integer whose distinct digits have a sum of 13 and the largest 3-digit integer whose distinct digits have a sum of 13?
2. \_\_\_\_\_ What is the units digit of 3 raised to the 2005<sup>th</sup> power?
3. \_\_\_\_\_ cm<sup>2</sup> What is the greatest possible area of a rectangle whose perimeter is 99cm? Express your answer as a common fraction in simplest form.
4. \_\_\_\_\_ There are 15 people trying out for the two remaining spots left on the school soccer team. How many different teams can be made?



5. \_\_\_\_\_ What is the product of all the even integers that are greater than -99 and less than 99?
6. \_\_\_\_\_ mi  Two trains travel towards each other, each traveling at an average speed of 35mph. As they begin, a falcon takes off from one train and flies back and forth between the two trains at an average speed of 40 mph until they meet. The trains begin 1,400 miles apart. How many miles does the falcon travel all together?
7. \_\_\_\_\_ There are 175 people in a school. Each student likes football, soccer, or both. If 149 of the students like soccer and 50 students like football, how many like both? 
8. \_\_\_\_\_ Subtract  $149^2$  from  $151^2$ .
9. \_\_\_\_\_ John has a cabinet filled with 6 blue socks, 3 white socks, 14 green socks, and 17 yellow socks. He closes his eyes when taking socks out. What is the least number of socks he needs to remove until he is sure that he has a pair? 
10. \_\_\_\_\_ A cube with side lengths of 3ft is filled with water by a faucet which flows at a rate of 1 cubic foot of water per minute. Twenty minutes after the first faucet begins filling the cube, a second faucet is turned on. The second faucet releases water at a rate of at 4 cubic feet per minute. How long will it take to fill the cube with water? Express your answer in minutes and seconds, separated by a colon.

