

# Geography Awareness



*“People from around the world can test their knowledge of geography by correctly placing 10 randomly selected countries on the map, at the web site <http://www.geographyolympics.com/>.*

*So in honor of Geography Awareness Week I decided to see if the Global Puzzle really could teach me the world. Figuring I need a baseline for comparison I start with the Geography Olympics web site. When it asks me what country I’m from I consider lying. I don’t want to lower the US average any more than its current value.*

*My first try I’m asked to identify Argentina, Botswana, Slovenia, Turkey, Norway, Benin, Jamaica, Niger, Ireland, and South Korea. I get Turkey right. On my second try I’m asked to find Panama, Mongolia, Mozambique, Guinea, Libya, Malaysia, Zambia, Netherlands, Vanuatu and Honduras. I get Panama, Mongolia and Honduras right. On my third try I draw Kuwait, Switzerland, Peru, Solomon Islands, Zimbabwe, Comoros, Greece, Vietnam, Nauru and Botswana. I guess Greece correctly.*

*I start working on the global puzzle, spending almost two complete days on it! Then I take the test again. This time I get 2, 4, 6 correct out of 10 on my three trials.”*

*Source: Mary Challenger, Des Moines Register, Nov 20, 2004.*

Fill in the data table:

Group 1			Group 2		
Try 1	Try 2	Try 3	Try 1	Try 2	Try 3

Calculate the statistics:

$$\bar{y}_1 = \quad s_1 = \quad n_1 =$$

$$\bar{y}_2 = \quad s_2 = \quad n_2 =$$

We’re going to test if the geography puzzle the author used between test taking helped her do better, which corresponds to  $H_o : \mu_1 = \mu_2$  vs  $H_A : \mu_1 < \mu_2$ .

Calculate the test statistic:

$$t = \frac{\bar{y}_1 - \bar{y}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} =$$

Find the P-value for the test statistic.

Are the assumptions for the hypothesis test satisfied?

What is your conclusion?