How Big is Barbie?

If Barbie™ was the size of an average woman and Batman™ an average man, what would they look like?

First, find two dolls or action figures (one male, one female) and measure various attributes of their bodies (see charts below). Second, calculate an appropriate scale factor to enlarge a certain dimension to a certain size. For example, in the chart below, the height of the average male is listed as 72 inches. After you measure your male doll, multiply the figure's measurements by some factor in order to enlarge it to 72 inches. Then use that scale factor to determine the other enlarged measurements. You will perform this process several times for each figure. The numbers provided are the hypothetical average measurements for females and males.

DATA CHARTS

MALE	Doll	Height	Head	Chest	Waist	Inseam	Foot
Ratio							
Height		72"					
Head			23"				
Chest				40"			
Waist					32"		
Inseam						32"	
Foot							11"

FEMALE	Doll	Height	Head	Chest	Waist	Inseam	Foot
Ratio							
Height		65"					
Head			21"				
Chest				36"			
Waist					24"		
Inseam						30"	
Foot							9"

Remember: Each column represents a different possible enlargement of the doll. Look for their distinct characteristics. What makes one different from another?

ASSIGNMENT

Once you have the chart completed, answer the following questions about your data:

1. What are your initial impressions as you look at your results?
2. What would the figures look like if they were real people? Describe each possibility in detail.
3. How do the female's measurements in the height column compare to those in the foot column?
4. Why do you think the figures are designed with such measurements? Do these designs have social impact?

Extra Credit

Option #1: Take measurements of yourself and scale them backwards (reduce them) to determine the dimensions of a doll or action figure modeled after you. Write a paragraph describing what you would look like as a doll. You may also draw a picture to illustrate.

Option #2: Using the given measurements in one of the charts as the "average" male or female, scale the measurements backwards (reduce them) to determine the dimensions of a 12-inch doll or action figure with proportional measurements. Then compare the doll with your original doll's measurements and write a paragraph explaining the similarities and differences.