

Barbie and Ken: Do Size – and Shape - Matter?

Which Barbie or Ken doll are you measuring? _____

We are going to “scale” the doll to human size. This means we will calculate the dimensions of a doll that is the size (scale) of a person. Choose a “normal height” to scale the measurements of the doll to (not everyone in the class will use the same height - you will proportionally scale Barbie (or Ken’s) measurements to this height):

Record the actual height of the doll: _____

Now take at least six of the following measurements – you must include among your six measurements chest, waist, and hip circumference. Then find what those measurements would be if the doll were scaled to the normal height that you chose to use above. Also record what you think normal measurements would be – you might want to make measurements, or use an average for your group, or make an educated guess as to the normal.

| | Measurement: | Scales to: | Normal: |
|---------------------|--------------|------------|---------|
| Chest circumference | | | |
| Waist circumference | | | |
| Hip circumference | | | |
| Finger length | | | |
| Head height | | | |
| Shoulder width | | | |
| Arm length | | | |
| Leg length | | | |
| Foot length | | | |
| Other: | | | |
| Other: | | | |

What is the ratio of the normal height you used to Barbie or Ken’s?: _____

Explain, in words and symbols, the method you used to calculate the scaled values:

Are any of Barbie or Ken’s measurements outside of the normal range? Which one(s)?

Did your findings match your expectations? Why or why not?

Mattel, which makes Barbie, might claim that the doll is actually proportioned like a normal adult woman. Write a sentence defending Barbie’s proportions, from the point of view of Mattel, using the mathematics you have just investigated:

On the other hand, Mattel might be criticized for making a doll which does not match human proportions. Write a sentence criticizing Mattel for the proportions of the Barbie Doll, using the mathematical results of your investigation:

What do you think about the issues raised in this assignment?