



Life-Size Barbie and Ken

What would Barbie's or Ken's body measurements be at your height?

Barbie's Measurements	Ken's Measurements	Barbie's or Ken's Measurements at Your Height
Height: 12" = 30.48 cm	Height: 11.75" = 29.85 cm	
Bust: 6" = 15.24 cm	Chest: 6.25" = 15.88 cm	
Waist: 3" = 7.62 cm	Waist: 4.5" = 11.43 cm	
Hips: 5" = 12.70 cm	Hips: 6" = 15.24 cm	

How do the findings from your calculations help you to argue whether Barbie or Ken has 'realistic' body proportions? Without doing these calculations, what would you have been able to claim about these dolls' proportions?

In 2016, Mattel released three new Barbie body types (in addition to Original Barbie, which is still produced): Tall Barbie, Curvy Barbie, and Petite Barbie. Additionally, many more options for skin tones (seven), eye colours (22), and hair styles (24) are now available. The campaign's slogan is: "Imagination comes in all shapes and sizes. That's why the world of Barbie is evolving."

In 2017, Mattel released two new Ken body types (in addition to Original Ken, which is still produced): Slim Ken and Broad Ken. Similar to the new Barbies, the new Ken dolls have more options for skin tones (seven), hair colours (eight) and hair styles (nine).



Particular media attention – both praise and criticism – has been paid to the Curvy Barbie and Broad Ken body types. These dolls' approximate measurements (rounded to the nearest quarter inch) are shown in the table below.

	Curvy Barbie	Broad Ken
Height	11" (27.94 cm)	11.75" (29.85 cm)
Waist	4" (10.16 cm)	5.75" (14.61 cm)
Hips	6" (15.24 cm)	6" (15.24 cm)

According to the National Health and Medical Research Council, a waist measurement above 31.5" (80 cm) for women and above 37" (94 cm) for men is considered an indicator of increased risk for health conditions such as diabetes. Using an assumption of a 1:6 ratio (the 'playscale', which is standard for many toys) between the dolls and real people, would Curvy Barbie and Broad Ken be considered to be in the 'risk' category?

Another calculation that is used to estimate health risks is the waist to hip ratio – the value attained after dividing the waist measurement by the hip measurement. For instance, if a man who is 55 years old has a waist measurement of 30” (76.2 cm) and a hip measurement of 34” (86.4 cm), his waist to hip ratio would be $30/34 = 0.88$, which means that he is in the low risk category (ratio < 0.90).

The below table shows the various categories of this ratio and their association with obesity-related diseases.

Waist to Hip Circumference Ratio Standards for Men and Women

		Disease Risk Related to Obesity			
	Age (years)	Low	Moderate	High	Very High
MEN	20-29	<0.83	0.83-0.88	0.89-0.94	>0.94
	30-39	<0.84	0.84-0.91	0.92-0.96	>0.96
	40-49	<0.88	0.88-0.95	0.96-1.00	>1.00
	50-59	<0.90	0.90-0.96	0.97-1.02	>1.02
	60-69	<0.91	0.91-0.98	0.99-1.03	>1.03
WOMEN	20-29	<0.71	0.71-0.77	0.78-0.82	>0.82
	30-39	<0.72	0.72-0.78	0.79-0.84	>0.84
	40-49	<0.73	0.73-0.79	0.80-0.87	>0.87
	50-59	<0.74	0.74-0.81	0.82-0.88	>0.88
	60-69	<0.76	0.76-0.83	0.84-0.90	>0.90

Into which category would each of the following toys fall, if s/he was your age?

1) Original Barbie

2) Curvy Barbie

3) Original Ken

4) Broad Ken

In terms of body image, is Barbie a harmful representation of an adult body, or can children discern the difference between 'real' and 'pretend' adult bodies? Are 'extreme' representations of adult men's bodies (e.g., superhero or wrestler action figures) similarly harmful (or not)? How might activities such as the one you just completed help with this distinction?

Mattel has been criticized over the years for other issues, including poor role modelling with regard to STEM fields. For example, 1992's Teen Talk Barbie said, "Math class is tough!" More recently, a Barbie book, *I Can Be a Computer Engineer* (2014), was criticized for depicting Barbie as being incompetent with computers and reliant upon men. However, Barbie has held a number of careers over the years, including jobs in STEM-related fields (e.g., astronaut, doctor, palaeontologist).

What do you think about these arguments? Is Barbie a good role model for girls with regard to STEM fields?