



NBA Apply Problem

## What Size Court is Right for You?

*powered by NBA data*

Watch the video clip at the link below—or find another basketball video—and count how many steps it takes for a player to run all the way down the court. If the player stops before the end, estimate how many more steps it would take to get to the other end of the court.

**Right-Sized Court**[www.vimeo.com/190265749](http://www.vimeo.com/190265749)

If a toddler were to run down a full-sized court, it would take them a lot more steps because the toddler is so short. We might want to make the court a little shorter for toddlers so that they don't tire out before the first shots are taken.



If basketball courts were scaled according to the height of the players, what size court would be right for you? Once you've solved the problem, try running down the length of the scaled-down court and see if you can do it in the same number of strides as your favorite player.

What are the dimensions and area of your "right-sized" basketball court?

**Evaluation Criteria**

Your response will be judged on four criteria:

1. Expressing a proper ratio of your height to your favorite player's height
2. Scaling the length and width of an NBA or WNBA court using the ratio you found
3. Determining the areas of the pro court and your court and sharing your method
4. Comparing the ratios for length and area and explaining your findings

Criteria	Scale				
	4	3	2	1	0
<b>Height Ratio</b>	Creates a correct ratio of own height to height of favorite player.	Creates a ratio of own height to height of favorite player with a minor arithmetic error.	Creates a ratio of own height to height of favorite player with a minor conceptual error.	Creates a ratio of own height to height of favorite player with a major conceptual error.	Does not make a meaningful attempt to complete the task.
<b>Length and Width</b>	Accurately determines length and width of a proportional court and correctly demonstrates the use of ratios.	Accurately determines length and width of a proportional court, but does not demonstrate the use of ratios.	Determines length and width of a proportional court using ratios, but makes a minor arithmetic error.	Determines the length and width of a court that is not proportional to the heights.	Does not make a meaningful attempt to complete the task.
<b>Areas</b>	Accurately determines the area of the two courts and clearly shares the method used to find the areas.	Accurately determines the area of the two courts and attempts to share the method used to find the areas but is not clear.	Determines the area of only one court or determines the area of both with no explanation of the method.	Attempts to determine the area of at least one court.	Does not make a meaningful attempt to complete the task.
<b>Comparisons</b>	Clearly compares the ratios and accurately describes the relationship between them.	Clearly compares the ratios but does not describe the relationship between them.	States the ratios but is unclear or has errors in them.	States some or all of the ratios with errors.	Does not make a meaningful attempt to complete the task.