

Determining the Square

Geometry Open Response Question Chapter 6 “Determining a Square”

Jamie, Chris, and Pat are outlining a square foundation for a storage building. They have string, tape measures, and a protractor. Each person’s method for forming a square is given below:

Jamie’s Method: Cut four strings that have the same length as the sides of the square storage building. Place these strings to form a quadrilateral. That quadrilateral will be a square.

- a. Will Jamie’s method always form a square? Justify your reasoning using the properties of squares.

Chris’ method: Cut four strings that have the same length as the sides of the square storage building. Place these strings to form a quadrilateral, making sure that two of the adjacent sides form a right angle.

- b. Will Chris’ method always form a square? Justify your reasoning using the properties of squares.

Pat’s method: Cut two strings the same length as diagonals of the square base of the storage building. Fold them in half, marking the center of each string. Unfold the strings and place them on the ground so that they intersect at their centers to form an x. Connect the endpoints of the strings to form a quadrilateral. That quadrilateral will be a square.

- c. Will Pat’s method always form a square? Justify your reasoning using the properties of squares.

BE SURE TO LABEL YOUR RESPONSES (a), (b), and (c).