

Grade: 4th

_____@student.rcps.us

Computer Number

Subject: Math 4.7 & 4.15

Area, Arrays and Number Patterns Minecraft Edu

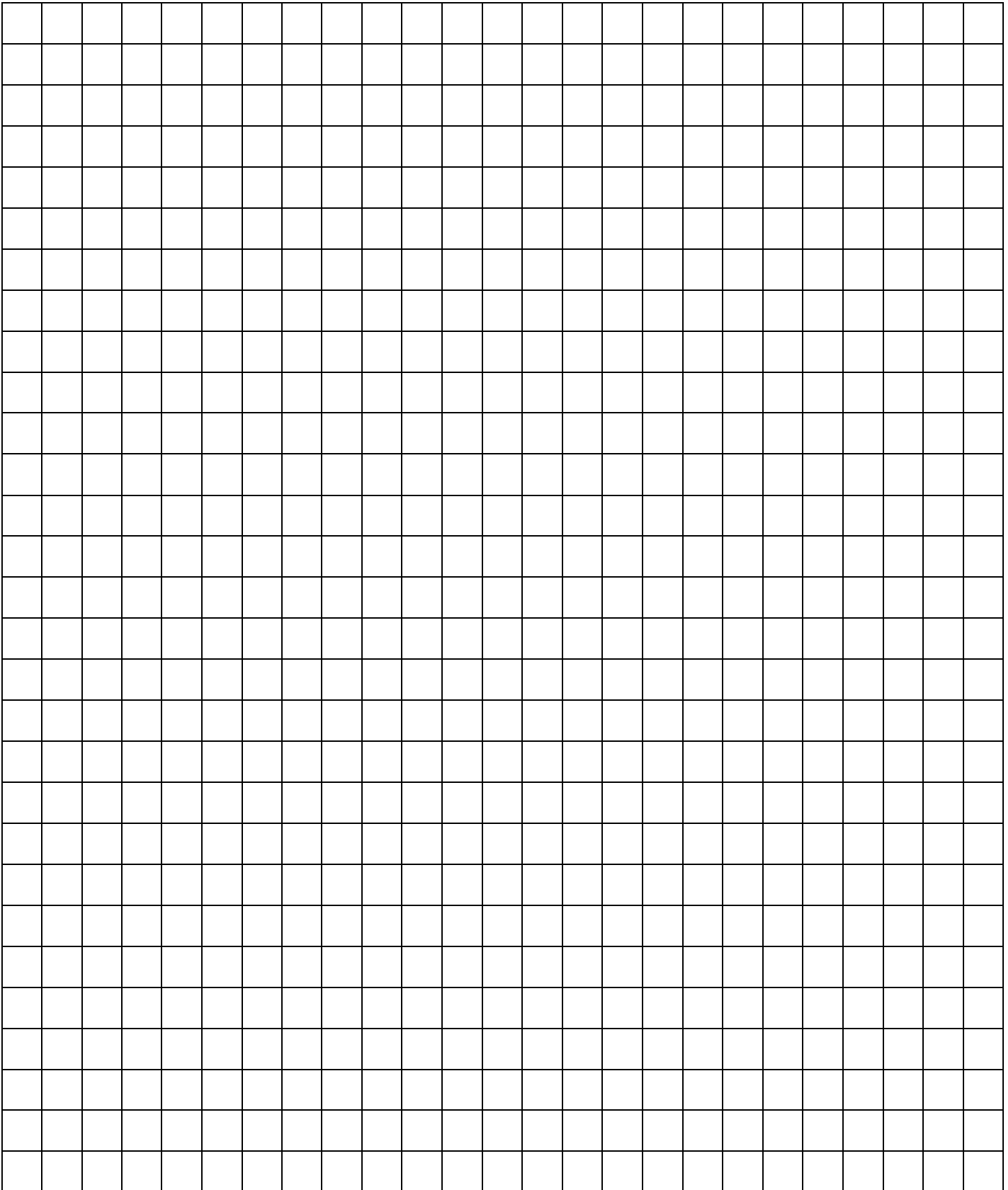
Background: You have been asked to design a house for some very picky clients. The demands of their Homeowners Association, on top of their own specific requests, are going to make this house design and build a true challenge.

Design Challenge: You will get a sheet of paper with all the client's requests. Unfortunately, the client doesn't come out and tell you what they want. Instead, they have submitted their plans in the form of math problems. First, you will have to solve the math problems. Next, you have to draw blueprints using "Prototype Paper". Prior to building Professor Potter's house in Minecraft, the customer (teacher) will have to approve the blueprints and verify that all customer demands will be met.

Criteria:

- House must have a perimeter of 100. Professor Potter does not care about the shape of his house but the perimeter has to be 100.
- Homeowners Association requires all house walls to be a specific height. The answer to this number pattern will be how high the house walls need to be. 2, ____, 8, 11, 14. You can design the roof to your liking but remember the walls have to be the height noted above.
- House must have a bedroom, kitchen, bathroom and living room. They do not care about the area of each room but you must label the area on a sign inside each room. Dig up the grass (inside the rooms) and lay down a colored floors. Mr. and Mrs. Potter love patterns so please plan accordingly.
- On the outside of our house, they want a garden planted. The Potters are very picky and want straight rows and everything must be planted perfectly even so please make an array. Put a sign in front of the garden stating the array and the crop planted.
- Build a fence around the entire perimeter of our property and the fence has to have some type of repeating pattern.
- Take pictures inside/outside of their beautiful house proving that all requests have been met. Make sure your signs are in the pictures so they can see the area of all rooms and information about their garden. Send the picture portfolio to the shared folder so they can be approved by the Potters before the purchase of the home.

Design Drawing and Plan for Prototype



Mr. and Mrs. Potter's Dream House Plans

- House must have a perimeter of 100. Professor Potter does not care about the shape of his house but the perimeter has to be 100.
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Rubric:

Criteria Assessed	No Evidence 0	Attempts to meet criteria shows limited understanding 1	Meets some criteria with room for improvement 2	Meets most criteria with room from improvement 3	Meets all criteria 4
Guided Portfolio					
The problem is restated.					
A clear plan for building is evident.					
The blueprints for the customer are completed and approved.					
Project					
The student build the design to these specifications:					
<ul style="list-style-type: none"> • The Perimeter of the house is 100 					
<ul style="list-style-type: none"> • Height of the house is 5 					
<ul style="list-style-type: none"> • Garden is an array and labeled as such 					
<ul style="list-style-type: none"> • Signs indicating area of room are posted. 					
<ul style="list-style-type: none"> • Four rooms with patterned floors 					
<ul style="list-style-type: none"> • Fence built around entire property with repeating pattern 					
<ul style="list-style-type: none"> • Pictures have been taken and placed in portfolio 					
Oral Presentation/Group Work					
The student uses grammatically correct language.					
The student uses mathematical vocabulary to communicate idea.					
The student speaks clearly.					
The student uses appropriate volume.					
The student uses only project appropriate materials from the inventory.					

Customer Report Grade _____