

Topic(s): Quadratic
Equation, Algebra

Concept(s): Number Sense,
Shape and Space, Pattern
Recognition, Generalization

Mathematical Practice(s):
MP1, MP2, MP3, MP7, MP8

Grade(s): 7th 8th 9th

Squares To Stairs

This is a great task. To introduce this task ask students to think on their own about how they see the shape growing. After students have an opportunity to draw and describe how they see the shape changing they are ready to engage in group work and further study.

Number of Players: Any



Figure 1



Figure 2

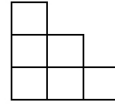


Figure 3

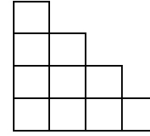


Figure 4

Task Instruction

1. How do you see the pattern growing?
 2. How many squares are in figure 10? Explain how you know.
 3. How many squares are in figure 55? Explain how you know.
 4. Can you use 190 squares to make a stair-like structure? Mathematically justify your answer.
 5. How can you figure out how many total squares are in any figure?
 6. If you have 1,478 squares, can you make a stair-like structure using all of the squares?
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Reference

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