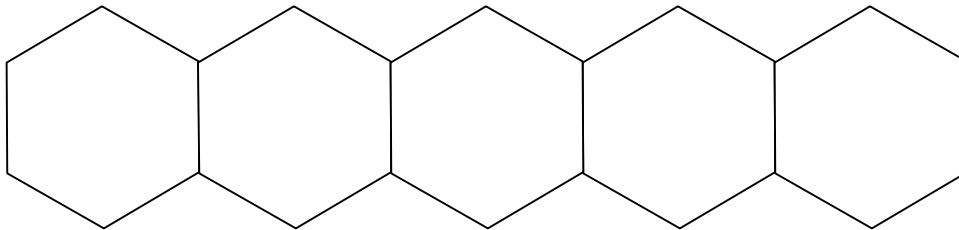


Mathematics Grade 9
Classroom Assessment Based on Standards
CABS Identifier: "Toothpick Hexagons"

MPS Learning Targets/Objective/ Wisconsin Assessment Framework for Mathematics - Descriptors

LT10.0 – Functions: Evaluate information, analyze patterns, identify relationships, and represent them using algebraic expressions, functions, and equations.
F2 Analyze, generalize and represent patterns of change.
F4 Model and solve a variety of mathematical and real-world problems by using algebraic expressions, equations, and inequalities.
LT1.0 – Process: Communicate mathematical ideas and reasoning using the vocabulary of mathematics in a variety of ways.
A1 Use reasoning/logic to perceive patterns, formulate questions, identify relationships, pose problems, make/test conjectures, and evaluate/justify strategies.
A2 Effectively use the vocabulary of mathematics and communicate mathematical ideas and logical arguments in a variety of ways.
A4 Create and use representations to organize, record, and communicate mathematical ideas.

A row of hexagons can be made from toothpicks as follows.



- (a) How many toothpicks do you need to have a row of 5 hexagons? Show how you found your answer.
- (b) How many toothpicks do you need to have a row of 9 hexagons? Show how you found your answer.
- (c) How many toothpicks do you need to have a row of 100 hexagons? Explain how you found your answer.
- (d) Let N represent the number of hexagons. Let T represent the number of toothpicks. Write an equation that gives the total number of toothpicks for a given number of hexagons. Explain how you found your answer.

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