

Traceable Figures

Alison Bryant

Oregon CIM Standard-Calculations and Estimation

Understand meanings of operations and how they relate to one another (*ODE Standard '06-'07*).

Geometry-For use after lessons on proofs, conjectures and logical thinking. (can be used after logic chains are introduced, and inductive and deductive reasoning)

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Task 1: Mr and Mrs. Mathematical want to create pathways through their maze of a yard. The designs of the garden areas are below. They want to walk by each part of the garden only once on each walk, so trace the pictures below without lifting your pencil or retracing any path. After several tries, they decided that some of the figures/designs could not be traced. Determine which of the figures can be traced and which cannot. Show how to trace them if they are possible.

- Part A: Is there more than one way to trace each figure? Is so, show methods or paths.
- Part B: Write a conjecture that will work for determining if a figure is “traceable.”
- Part C: Create your own examples of each type of figure. (traceable and non-traceable)

Goal: Explain your thinking from each part on a poster showing your thinking, processes and ideas. Your posted should include “proof” or evidence of your conjecture and ideas.

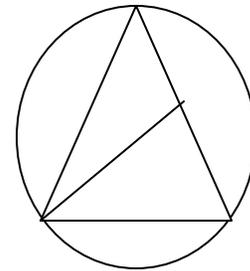
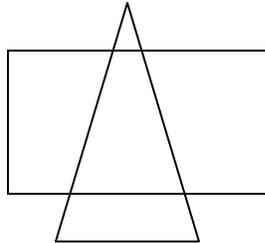
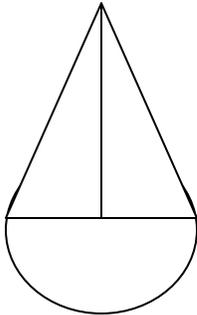
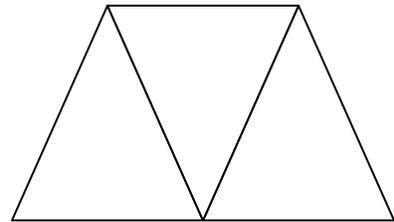
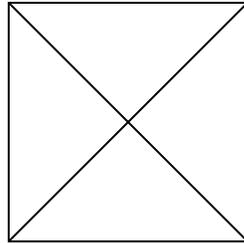
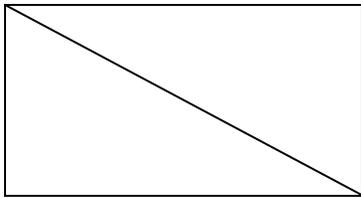
Name: _____

Group Members: _____

Date: _____ Period: _____

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- Part A: Is there more than one way to trace each figure? If so, show how many methods or paths you can find.
- Part B: Write a conjecture that will work for determining if a figure is “traceable.”
- Part C: Create your own examples (2 each) of each type of figure. (traceable and non-traceable)

Goal: Explain your thinking from each part on a poster showing your thinking, processes and ideas. Your poster should include “proof” or evidence of your conjecture and ideas.

Poster is worth 15 quiz points. Participation is worth 15 homework points.