

Classifying Quadrilaterals

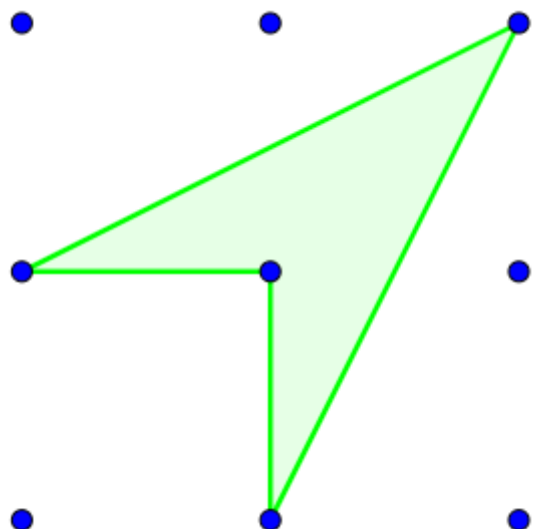
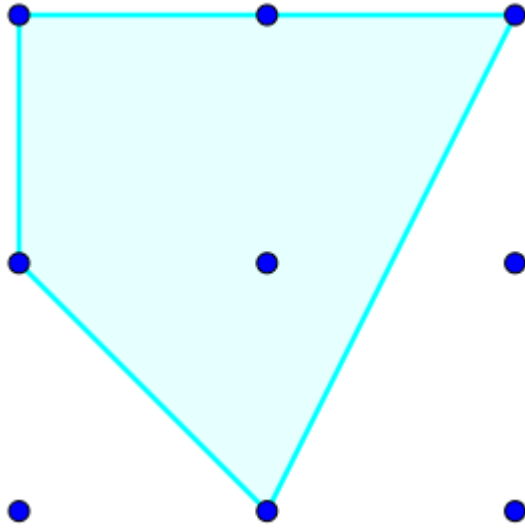
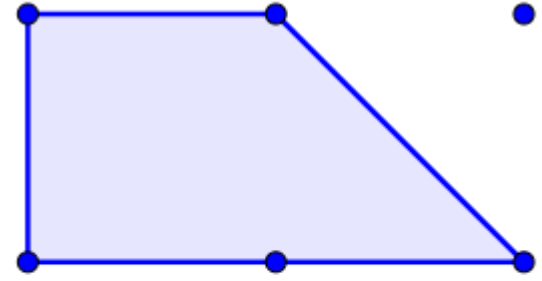
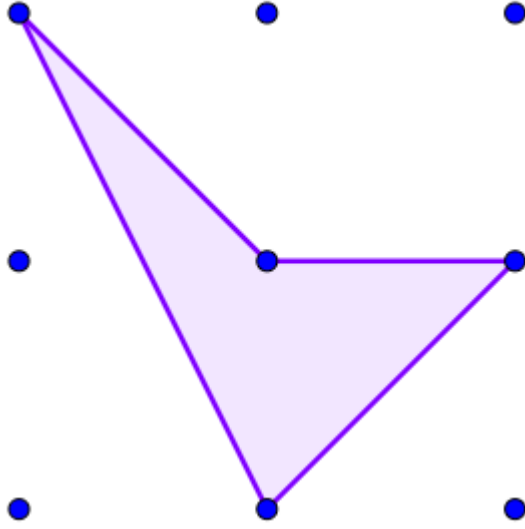
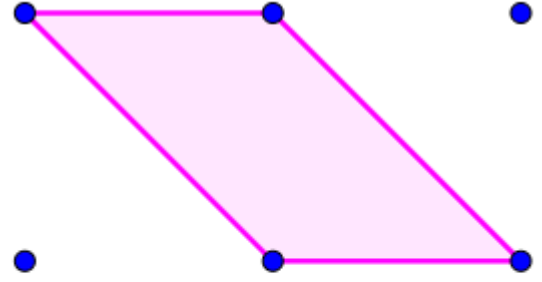
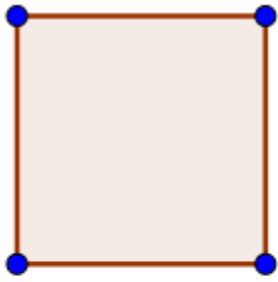
To promote students' mathematical thinking and discussion, and to generate rich classroom dialogue, it is recommended that the task be undertaken in groups of between 2 and 4 students.

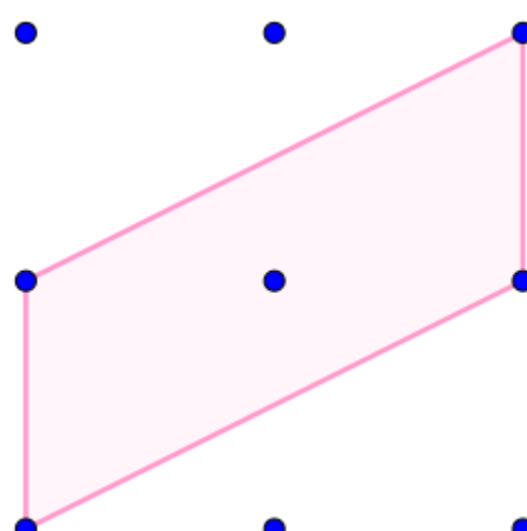
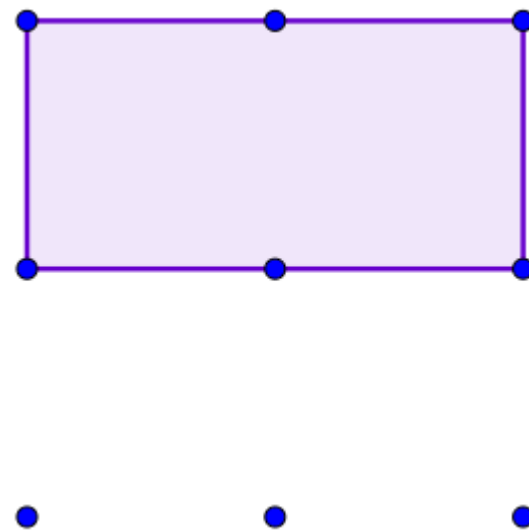
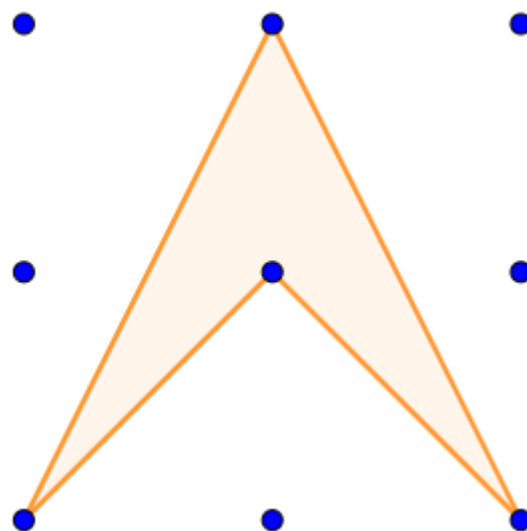
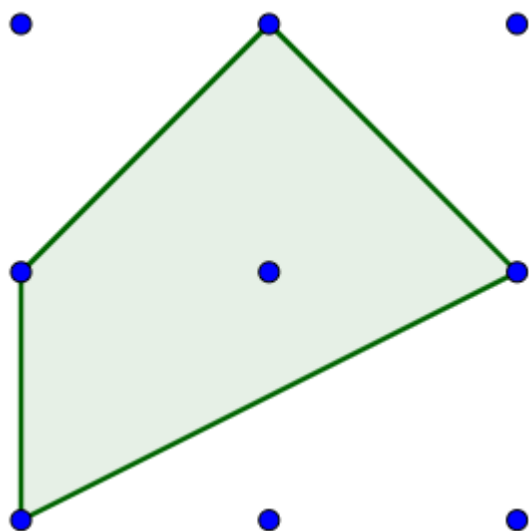
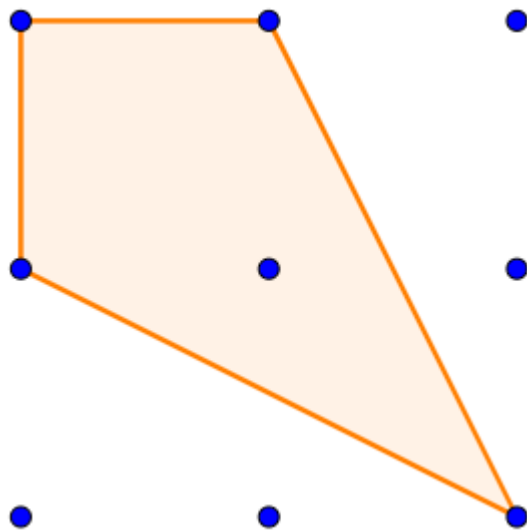
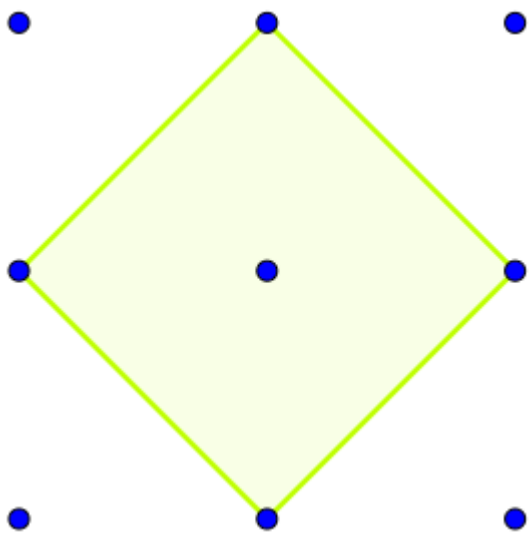
Suggested instructions for this task:

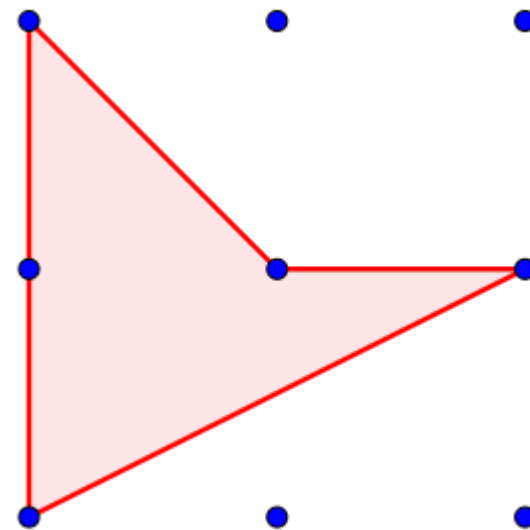
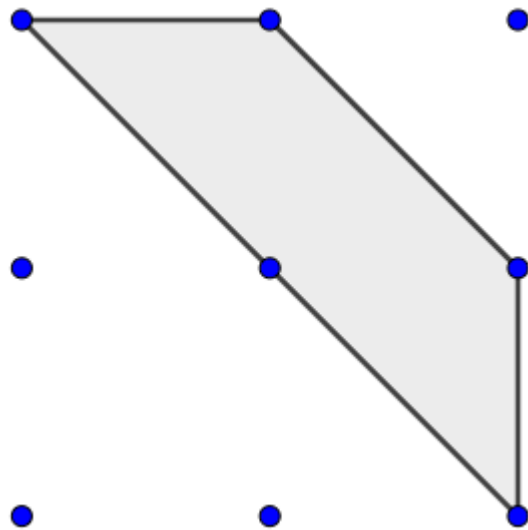
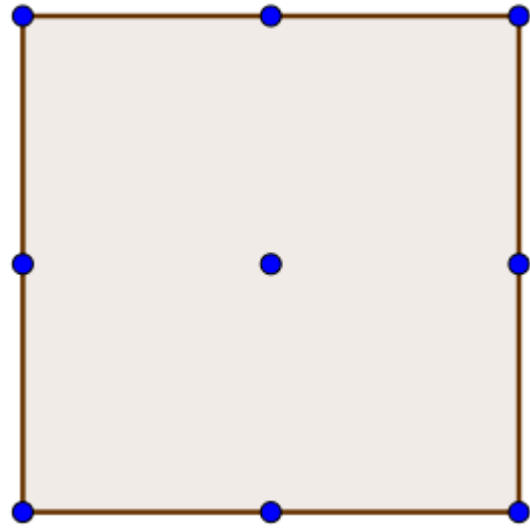
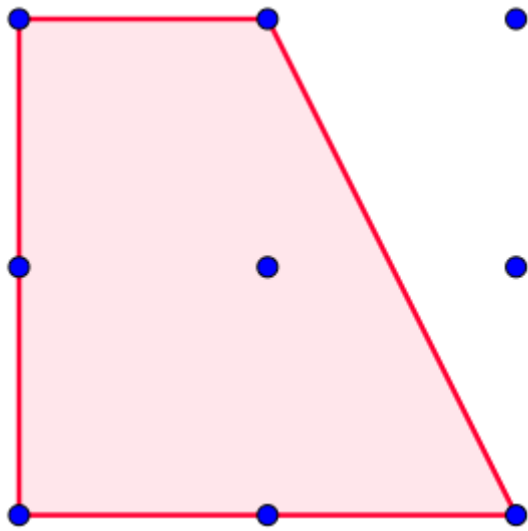
- Each group should be given a set of 9-pin geoboard quadrilateral cards (16 in total) along with text cards (2 cards with suggested text and 2 blank cards provided).
- The group should arrange the cards based on the criteria for classification outlined on the text cards.
- In turn, students in the group should select a card. The student identifies where they believe the card should be placed based on their understanding of the criteria for classification.
- The card can only be placed once the group has reached a consensus.
- The group can postpone the placement of a card only twice during the task and only after a discussion has taken place about its placement. [This task condition is to ensure students engage with some of the more challenging cards. The class teacher is best placed to decide whether this task condition is appropriate]
- The teacher should move around the room gathering evidence about student's knowledge, understanding and learning. Appropriate questioning often provides greater insight.
- Once the task has been completed, a plenary discussion is recommended. This should be guided by the evidence gathered by the teacher during the task. Effective questioning has the potential to enrich the class discussion and student learning.

The task is linked to the following learning outcomes from the Junior Cycle Mathematics specification:

- GT2 investigate 2-D shapes
- GT3 (b) recall and use the concepts, axioms, theorems, corollaries and converses
- GT5 investigate properties of points, lines and line segments in the co-ordinate plane
- GT6 investigate transformations of simple objects
- N5 explore the concept of a set
- U4 represent a mathematical representation in a variety of different ways, including numerically, algebraically, graphically, physically, in words; and to interpret, analyse, and compare such representations
- U5 make connections within and between strands
- U13 communicate mathematics effectively: justify their reasoning, interpret their results, explain their conclusions, and use the language and notation of mathematics to express mathematical ideas precisely.







Quadrilaterals that can be sketched on a 9-pin geoboard with at least one pair of parallel lines

Quadrilaterals that can be sketched on a 9-pin geoboard with at least one axis of symmetry

