

Discussion Problem

Quadrilaterals

National Curriculum Objectives:

Mathematics Year 4: (4G2a) Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes

About this resource:

This resource has been designed to provide pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

Quadrilaterals

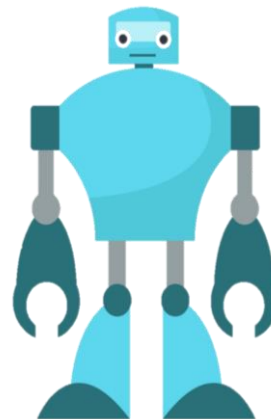
1. Robert is trying to design a robot using only quadrilaterals.

Here is the criteria for his design:

The robot must include at least 5 different types of quadrilaterals.

The arms of the robot must have 2 sets of parallel lines.

The total design must not use more than 20 different quadrilaterals.



Investigate which designs would work.

How many different designs can you create?

DP

2. Sian is trying to solve a puzzle using her knowledge of quadrilaterals.

She says,

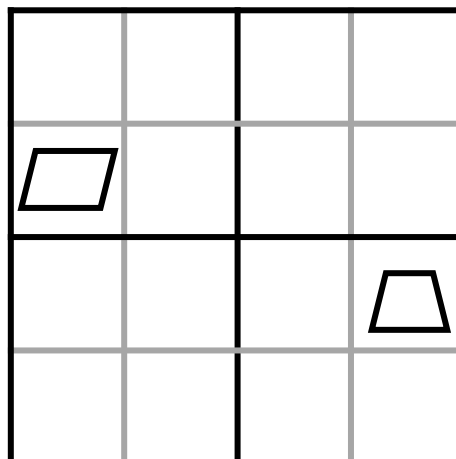


Each row, column and quarter must not use the same shape more than once.

The only four shapes that I can use are squares, rectangles, parallelograms and trapeziums.

Investigate the possible solutions to the puzzle.

Is there more than one possible solution?



DP

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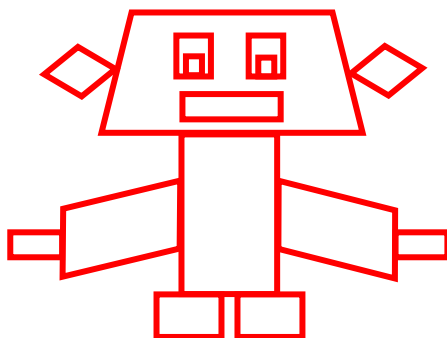
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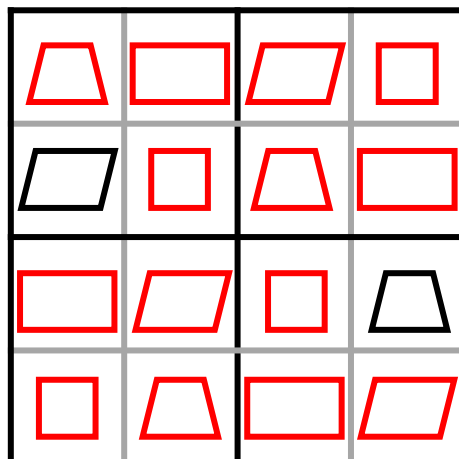
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