Problem Statement

You are given the following two Math questions (Refer Base questions). Your goal is to create similar questions using LLM.

Things to consider:
1. A question can have equations and formulas in LaTeX format, and it should be preserved.

2. A question can have images and we need to create appropriate image in the new question

Feel free to use AI editors such as cursor.ai or any of your favorites.

Expected Output

A Word document/Google doc link along with Github link to be sent in the chat. The word document should have two newly-generated questions in Question Output format (refer next section).

Question Output Format

@title Assessment title, can be a meaningful name
@description assessment description

// Use this block for each question when adding Multiple Choice Questions (MCQ)
@question **Write your question here**
@instruction Write instruction here
@difficulty ***easy,moderate,hard***
@Order **Question number**
@option **write first option here**
@option **Write second option here**
@@option **Correct Answer**
@option **option**
@explanation
Write your question explanation here
@subject **Write subject of the question here**
@unit **Write unit of the subject**
@topic Write topic of the question
@plusmarks 1

The subject, unit and topic is a hierarchy and they should strictly come from the curriculum and should be chosen by the LLM for each question.

Curriculum

subject	unit	topic
Quantitative Math	Problem Solving	Numbers and Operations
Quantitative Math	Problem Solving	Algebra
Quantitative Math	Problem Solving	Geometry
Quantitative Math	Problem Solving	Problem Solving
Quantitative Math	Problem Solving	Probability and Statistics
Quantitative Math	Problem Solving	Data Analysis
Quantitative Math	Algebra	Algebraic Word Problems
Quantitative Math	Algebra	Interpreting Variables
Quantitative Math	Algebra	Polynomial Expressions (FOIL/Factoring)
Quantitative Math	Algebra	Rational Expressions
Quantitative Math	Algebra	Exponential Expressions (Product rule, negative exponents)
Quantitative Math	Algebra	Quadratic Equations & Functions (Finding roots/solutions, graphing)
Quantitative Math	Algebra	Functions Operations
Quantitative Math	Geometry and Measurement	Area & Volume
Quantitative Math	Geometry and Measurement	Perimeter
Quantitative Math	Geometry and Measurement	Lines, Angles, & Triangles
Quantitative Math	Geometry and Measurement	Right Triangles & Trigonometry
Quantitative Math	Geometry and Measurement	Circles (Area, circumference)
Quantitative Math	Geometry and Measurement	Coordinate Geometry
Quantitative Math	Geometry and Measurement	Slope
Quantitative Math	Geometry and Measurement	Transformations (Dilating a shape)
Quantitative Math	Geometry and Measurement	Parallel & Perpendicular Lines

Quantitative Math	Geometry and Measurement	Solid Figures (Volume of Cubes)
Quantitative Math	Numbers and Operations	Basic Number Theory
Quantitative Math	Numbers and Operations	Prime & Composite Numbers
Quantitative Math	Numbers and Operations	Rational Numbers
Quantitative Math	Numbers and Operations	Order of Operations
Quantitative Math	Numbers and Operations	Estimation
Quantitative Math	Numbers and Operations	Fractions, Decimals, & Percents
Quantitative Math	Numbers and Operations	Sequences & Series
Quantitative Math	Numbers and Operations	Computation with Whole Numbers
Quantitative Math	Numbers and Operations	Operations with Negatives
Quantitative Math	Data Analysis & Probability	Interpretation of Tables & Graphs
Quantitative Math	Data Analysis & Probability	Trends & Inferences
Quantitative Math	Data Analysis & Probability	Probability (Basic, Compound Events)
Quantitative Math	Data Analysis & Probability	Mean, Median, Mode, & Range
Quantitative Math	Data Analysis & Probability	Weighted Averages
Quantitative Math	Data Analysis & Probability	Counting & Arrangement Problems
Quantitative Math	Reasoning	Word Problems

Base Questions

```
1. Each student at Central Middle School wears a uniform consisting of 1 shirt and 1 pair of pants. The table shows the colors available for each item of clothing. How many different uniforms are possible?

## Uniform Choices

| Shirt Color | Pants Color |
| :---: | :---: |
```

```
| Tan | Black |
| Red | Khaki |
| White | Navy |
| Yellow |  |

(A) Three
(B) Four
(C) Seven
(D) Ten
(E) Twelve
```

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2. The top view of a rectangular package of 6 tightly packed balls is shown. If each ball has a radius of 2 centimeters, which of the following are closest to the dimensions, in centimeters, of the rectangular package?
![](https://cdn.mathpix.com/cropped/2025_07_31_dc2e3d22c70b1617b86dg-33.jpg?height=451&width=307&top_left_y=1130&top_left_x=280)
(A) $2 \times 3 \times 6$
(B) $4 \times 6 \times 6$
(C) $2 \times 4 \times 6$
(D) $4 \times 8 \times 12$
(E) $6 \times 8 \times 12$
```