

Variation using a maths GCSE question

Year 11 (Foundation)

HIAS Maths Team (secondary)
January 2021
Final version

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Overview

This document contains...

A set of connected questions that link to a past GCSE question

Points to consider when using this resource

Each variation of the exam question should be considered as part of a learning journey. Teachers may wish to consider models and images to support students to access the problems.



Year 11 F: variation: AQA 2018 P1 Q7

Equivalent fractions and area of
rectangles



Prior knowledge to review

- Multiplication strategies
- Knowledge of tables and associated facts
- Equivalent fractions
- Simplification of fractions using factors
- Area of a square
- Area of a rectangle

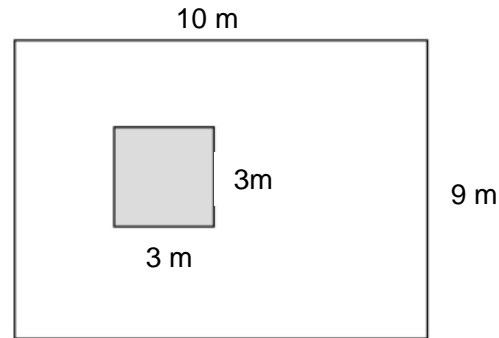


A rectangular carpet measures 10 m by 9 m

What is the area of the carpet?

Part of the carpet is covered by a square rug that measures 3 m by 3 m

What is the area of the rug?



Not drawn
accurately

What fraction of the carpet is covered by the rug?

[2 marks]

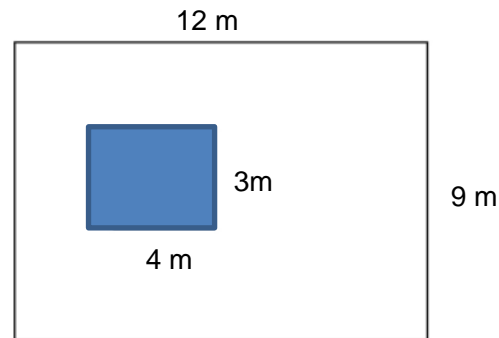


A rectangular carpet measures 12 m by 9 m

What is the area of the carpet?

Part of the carpet is covered by a rectangular rug that measures 4 m by 3 m

What is the area of the rug?



Not drawn
accurately

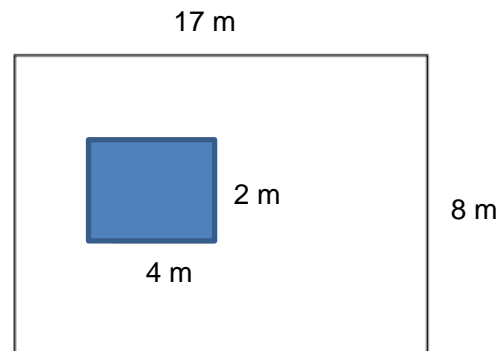
What fraction of the carpet is covered by the rug?

[2 marks]



A rectangular carpet measures 17 m by 8 m

Part of the carpet is covered by a rectangular rug that measures 4 m by 2 m



Not drawn
accurately

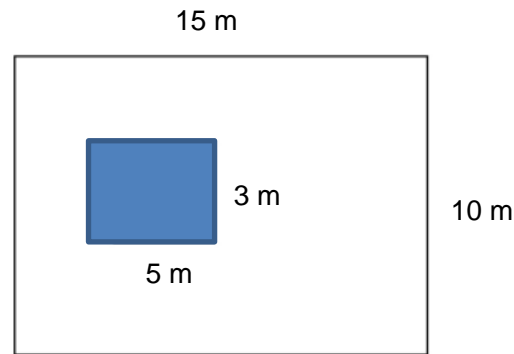
What fraction of the carpet is covered by the rug?

[2 marks]



A rectangular carpet measures 15 m by 10 m

Part of the carpet is covered by a rectangular rug that measures 5 m by 3 m



Not drawn
accurately

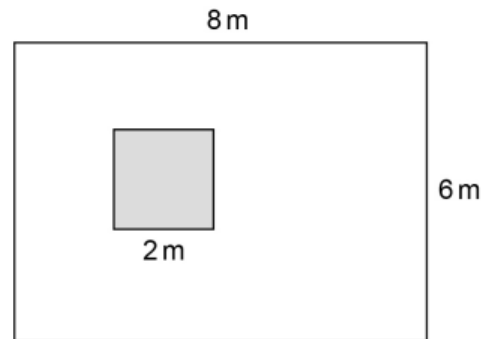
Show that $\frac{1}{10}$ of the carpet is covered by the rug

[2 marks]



Year 11 F: variation: AQA 2018 P1 Q7
Equivalent fractions and area of rectangles

- 7 A rectangular carpet measures 8 m by 6 m
Part of the carpet is covered by a square rug of length 2 m



Not drawn
accurately

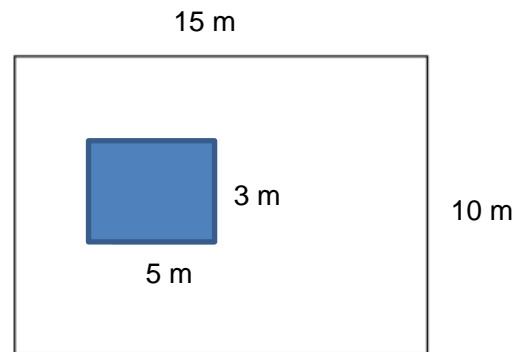
Show that $\frac{1}{12}$ of the carpet is covered by the rug.

[2 marks]



A rectangular carpet measures 15 m by 10 m

Part of the carpet is covered by a rectangular rug that measures 5 m by 3 m



Not drawn
accurately

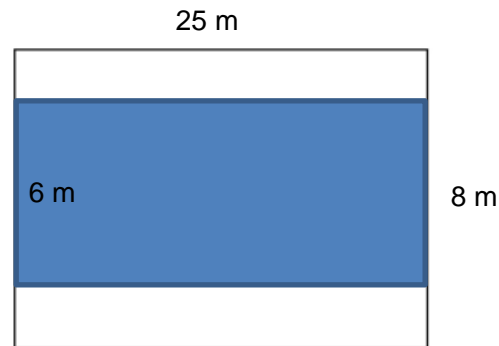
What percentage of the carpet is covered by the rug?

[2 marks]



A rectangular carpet measures 25 m by 8 m

Part of the carpet is covered by a rectangular rug that measures 25 m by 6 m



Not drawn
accurately

What fraction of the carpet is covered by the rug?

Write your answer in the simplest form

What percentage of the carpet is covered by the rug?

[2 marks]



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