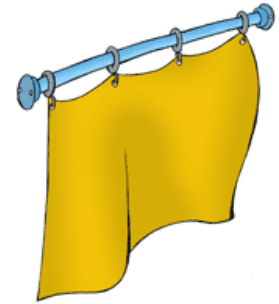


L2 Shape & space practice questions

Name _____ Date _____

1. Diana runs an online curtain shop and makes curtains to sell.
 - One pair of door curtains is made from two large pieces of material. Each piece is 1100mm by 2500mm.
 - There are no joins within a curtain.
 - Diana cuts the curtains out from a large roll of material 9m by 1.5m.



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A customer orders 2 pairs of curtains.

Will Diana have enough material on 1 roll to make the curtains?

Show why you think this. You may use diagrams.

L2 Shape & space practice questions

Name _____ Date _____

2. Elaine makes coffee tables.

Each coffee table is made out of 5 wooden panels and 4 legs.

- 1 large panel 1.2m by 0.6m
- 2 small panels 1m by 0.2m
- 2 small panels 0.5m by 0.2m
- 4 legs

Elaine cuts the panels out from wooden boards.

Each board is 2000mm by 2000mm.



Elaine receives an order for 3 tables.

She thinks she can cut enough panels out of 2 boards to make the tables.

Is Elaine correct?

Show why you think this. You may use diagrams.

L2 Shape & space practice questions

Name _____ Date _____

3. Naveed makes gift boxes to sell on his website.
The template for each box is cut out of patterned card.

- The maximum width of each template is 21cm
- The maximum length of each template is 36cm

Naveed cuts the templates out of large sheets of card.
Each sheet measures 1m x 2m.

**Naveed thinks he can cut at least 20 templates out from
1 sheet of card.**

Is Naveed correct?

Show why you think this. You may use diagrams.



L2 Shape & space practice questions

Name _____ Date _____

4. Veronica is making her Christmas cards this year. She finds a design she likes that involves rolling thin strips of paper into various shapes.

She cuts the strips of paper from A4 sheets.

- A4 sheets measure 210 x 297mm
- Each strip is 5mm wide and 297mm long

Veronica needs 12 strips of green paper and 8 strips of red paper for each card.



How many cards can she make if she buys 5 sheets of green paper and 3 sheets of red paper?

L2 Scale drawing practice questions

Answers and curriculum mapping

Question	Answer
1	<p>2 pairs = 4 curtains</p> <p>$9000 \div 2500 = 3.6$</p> <p>$1500 \div 1100 = 1.36$</p> <p>3 curtains can be cut from 1 roll of material so NO – Diana would need to buy 2 rolls.</p>
2	<p>2000mm = 2m</p> <p>See diagram below for possible solution</p> <p>YES - 2 tables can be made from 1 board so 2 boards will be enough.</p>
3	<p>1m = 100 cm 2m = 200cm or 21cm = 0.21m 36cm = 0.36m</p> <p>$200 \div 36 = 5.555\dots$</p> <p>$100 \div 21 = 4.76\dots$</p> <p>5 x 4 = 20 templates – YES, Naveed is correct.</p> <p>If you divide 200 by 21 and 100 by 36, only 18 templates could be cut.</p>
4	<p>1 A4 sheet = $210 \div 5\text{mm} = 42$ strips</p> <p>5 sheets of green = $5 \times 42 = 210$ strips of green paper</p> <p>$210 \div 12$ (strips needed for 1 card) = 17 cards</p> <p>3 sheets of red = $3 \times 42 = 126$ strips of red paper</p> <p>$126 \div 8 = 15$ cards</p> <p>15 cards can be made in total (she has enough green for 17 cards but only enough red for 15)</p>

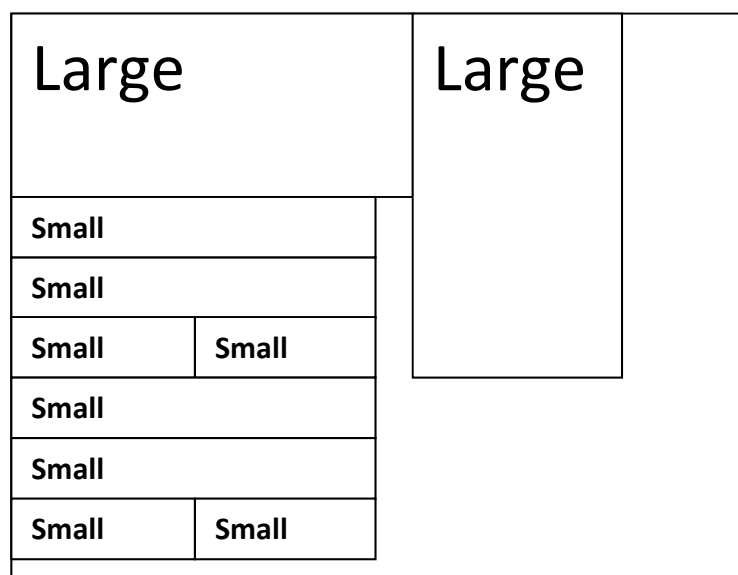


Diagram
not
accurately
drawn

L2 Scale drawing practice questions

Answers and curriculum mapping

FUNCTIONAL MATHEMATICS Coverage and Range statements (indicative only)

Coverage and range statements provide an indication of the type of mathematical content candidates are expected to apply in functional contexts. Relevant content can also be drawn from equivalent National Curriculum levels and the Adult Numeracy standards. ✓ indicates the main coverage and range skills covered in this resource, although these may vary with the student group and how the resource is used by the teacher.

Reference: Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2*. <https://www.gov.uk/government/publications/functional-skills-criteria-for-mathematics>

Level 1

- | | |
|--|--|
| a) Understand and use whole numbers and understand negative nos. in practical contexts ✓ | g) Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature ✓ |
| b) Add, subtract, multiply and divide whole numbers using a range of strategies ✓ | h) Convert units of measure in the same system ✓ |
| c) Understand and use equivalences between common fractions, decimals and percentages | i) Work out areas and perimeters in practical situations |
| d) Add and subtract decimals up to 2 decimal places | j) Construct geometric diagrams, models and shapes ✓ |
| e) Solve simple problems involving ratio, where one number is a multiple of the other | k) Extract and interpret information from tables, diagrams, charts and graphs ✓ |
| f) Use simple formulae expressed in words for one- or two-step operations | l) Collect and record discrete data and organise and represent information in different ways |
| | m) Find mean and range |
| | n) Use data to assess the likelihood of an outcome |

Level 2

- | | |
|---|--|
| a) understand and use positive and negative numbers of any size in practical contexts | g) find area, perimeter and volume of common shapes |
| b) carry out calculations with numbers of any size in practical contexts, to a given number of decimal places | h) use, convert and calculate using metric and, where appropriate, imperial measures ✓ |
| c) understand, use and calculate ratio and proportion, including problems involving scale | i) collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate |
| d) understand and use equivalences between fractions, decimals and percentages | j) use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate. |
| e) understand and use simple formulae and equations involving one or two operations | k) use statistical methods to investigate situations |
| f) recognise and use 2D representations of 3D objects ✓✓ | l) use probability to assess the likelihood of an outcome |

This resource also covers many **adult numeracy curriculum** elements. <http://www.excellencegateway.org.uk/content/etf1075>