

Designing a garden

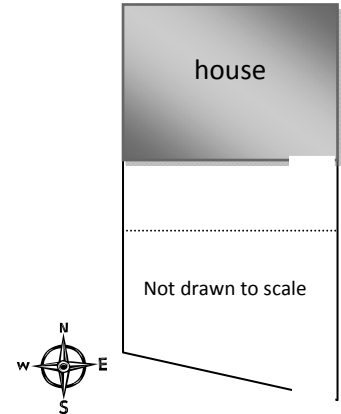
Name _____ Date _____

The garden is south facing. It measures 5m across.
It measures 8m down the west facing side and 9m down
the east facing side.

1. Draw this to scale on squared paper.

I would like a patio that measures 2m out from the house.

2. Mark this on your scale drawing.



The back door and gate in the garden are both on the eastern side of the
garden. A path needs to join them.

3. Draw this on your scale drawing – make sure you mark how wide it is.

I would like a lawn area beyond the patio, approximately 4m long.

I would also like a shed at the bottom of the garden.

4. Find one in the Wickes catalogue and use the measurements to mark this
on the plan.

5. Now draw the lawn on the plan. The turf comes in 1m² rolls, and costs
£3.50 per roll.

6. The shed needs to be sited on slabs, the area around it and the path need
to be gravel.

Now work out the cost of this garden using the Wickes
catalogue. Use the next page to help you.



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Name _____ Date _____

Remember: Area = length x width

Total area of the garden (m ²)	
Area of patio (m ²)	
Area of each patio slab (m ²)	
Number of patio slabs needed	
Cost of patio	
Area of lawn (m ²)	
Number of rolls needed	
Cost of lawn	
Cost of shed	
Area of shed base (m ²)	
Number of slabs needed	
Cost of slabs for shed base	
Total cost of shed and base	
Area of path (m ²)	
Area around shed (m ²)	
Total area to be gravelled	
Amount of gravel needed (m ²)	
Cost of gravel	
Total cost of the garden	



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Functional Maths mapping

FUNCTIONAL MATHEMATICS Coverage and Range statements (indicative only)

This resource is ideal for underpinning many Functional Maths coverage and range statements at Level 1 and Level 2 (see highlighted areas of the table below). 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 & Adult Numeracy standards. **However, in Functional Maths exams it is the process skills that are assessed; these are key to successful Functional Maths teaching and learning and must always be developed and stressed during teaching (see below).** Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2*. <http://www.ofqual.gov.uk/>

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

Level 1

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

Process Skills (all levels)

Representing – selecting the mathematics and information to model a situation	Analysing – processing and using mathematics	Interpreting – interpreting and communicating the results of the analysis
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Skill Standards (Level 2)

<ul style="list-style-type: none"> understand routine and non-routine problems in familiar and unfamiliar contexts and situations ✓ identify the situation or problems and identify the mathematical methods needed to solve them ✓ choose from a range of mathematics to find solutions ✓ 	<ul style="list-style-type: none"> apply a range of mathematics to find solutions ✓ use appropriate checking procedures and evaluate their effectiveness at each stage 	<ul style="list-style-type: none"> interpret and communicate solutions to multistage practical problems in familiar and unfamiliar contexts and situations ✓ draw conclusions and provide mathematical justifications
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Skill Standards (Level 1)

<ul style="list-style-type: none"> understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine ✓ identify and obtain necessary information to tackle the problem ✓ select mathematics in an organised way to find solutions ✓ 	<ul style="list-style-type: none"> apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes ✓ use appropriate checking procedures at each stage 	<ul style="list-style-type: none"> interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations ✓
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