

Loft Conversion

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.

Task 1

Diana has a loft in her house that she wants to convert into a bedroom. She finds out all the costs.

Building work	£13500
Fitted wardrobe	£475
Bedroom Furniture	£600
Decoration	£250

1. Calculate the total cost.

2. Diana wants to pay less for the building work.

The builder offers her 10% discount on the £13500 cost. **How much is the discount?**

3. Diana has a plan of the floor in the new bedroom.

She shades the space where she cannot put more furniture.

Diana wants to put a rug, a fitted wardrobe and a TV cabinet into the new bedroom.

The wardrobe needs:

- to be fitted against a wall.
- a rectangular floor space of 100cm by 250cm (depth x width).
- to be at least 50cm from the bed.

The TV cabinet:

- needs a rectangular floor space of 100cm by 50cm.
- must not be against a wall or any furniture.

Draw a fitted wardrobe and TV cabinet on the plan on page 2.

4. Diana wants to put a rug on the floor in the new bedroom. She wants a rectangular rug with a maximum size of 2m by 1m. She finds these rugs.

a. List the rugs she could buy.

Rug	Width	Length
Rose	75cm	150cm
Pansy	120cm	180cm
Mint	150cm	150cm
Dill	140cm	200cm
Ivy	80cm	120cm

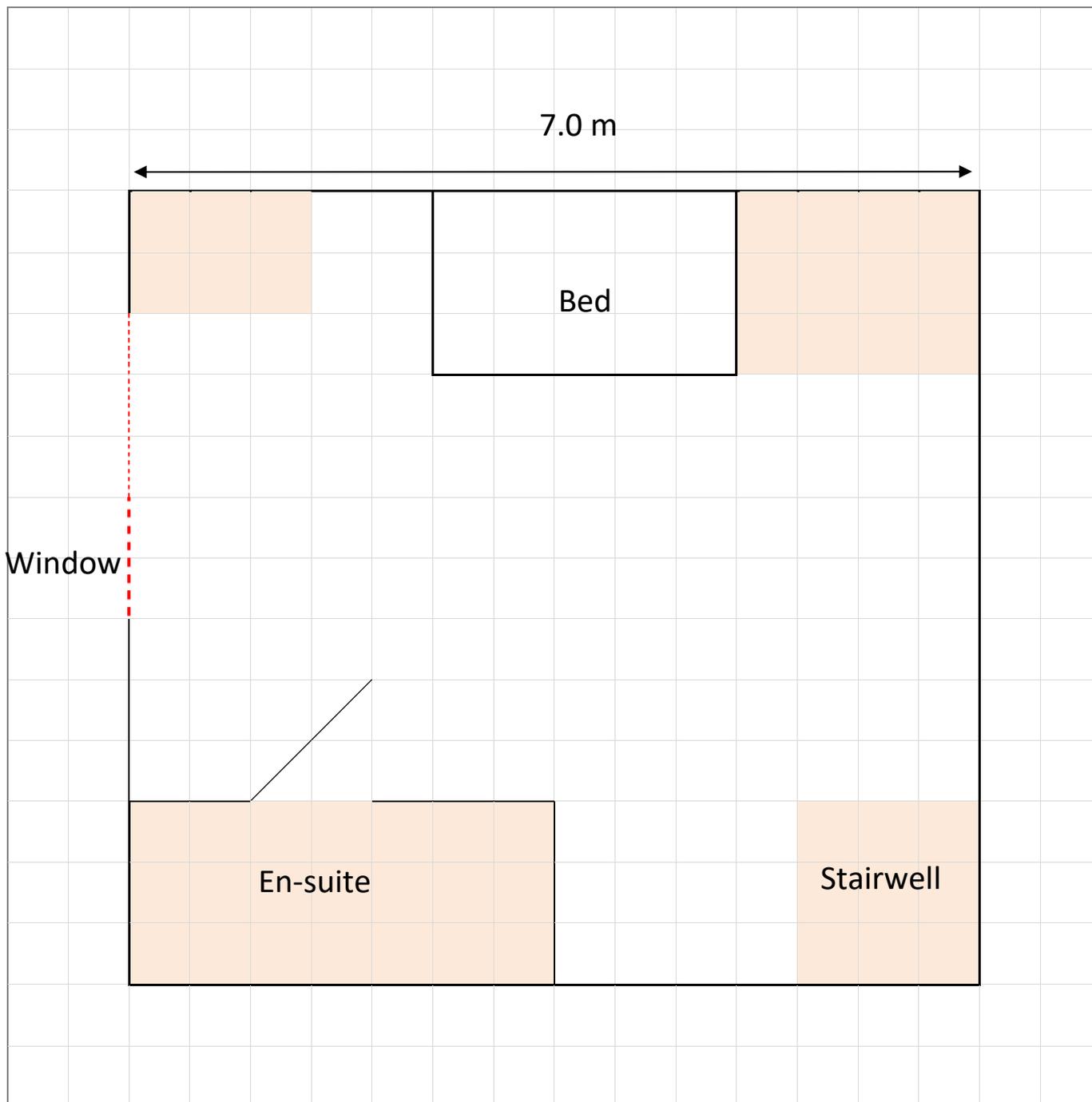
b. From your list, choose the rug with the largest area. Draw it on the plan making sure it is at least 50cm from any wall or furniture. Label it clearly with the correct name.

Loft Conversion

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.

Plan of Loft



4c. Complete this information about the scale plan.

- One square on the plan represents an actual space of _____ cm x _____ cm.
- The en-suite bathroom will be _____ m long and _____ m wide.
- The total area of the rectangular loft space is: _____ m².

Loft Conversion

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.

5. Diana wants to buy this second-hand TV for the new bedroom.



She thinks she can get the money by selling some items.
She makes this tally chart of the items she thinks she can sell.

Item	Tally	Price	Money raised
Computer games	###		
DVDs	###///		
CDs	### ### ### /		
Total:			

These are the prices Diana will charge per item:

- Computer Games £10 each
- DVDs £4 each
- CDs £2.50 each

Complete the table to show how Diana can get at least £100 by selling items at these prices.

6. Diana hears on the radio



Having a loft conversion adds an average of £20,876 to the value of your house.

Before conversion, her house had a value of £194500.

After the conversion, she is told that the value of her house will increase by 10.5%.

She thinks her house has gained more than the average amount. **Is she right? Show your working.**

7. Show how you can check that your answer to question 6 is correct.

Social Club

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.

Task 2

8. Jon wants to join a social club. The table below shows the types of membership at the club.

Membership	Annual fee (£)	Details
A	55	Book group
B	60	Money off the cost of activities
C	95	Book group & money off activities

Here are the activities at the social club and their prices.

Activity	Full cost	Cost with type B or C membership
Organised Walk	£18	£13.50
Weekend break	£128.00	£100.80
Film evening	£15.00	£12.00

Jon wants to go to the book group, 2 organised walks and 1 weekend break.

He thinks his cheapest option is to have type A membership and pay the full cost of the activities.

Is Jon correct? Show why.

9. Sandra books a hall for a film evening. She books it from 7pm to 11pm.

She writes some notes about the evening.



Organise hall – $\frac{3}{4}$ of an hour
Show films – 2 films lasting 40 minutes each
Discussion – $\frac{1}{2}$ an hour
Refreshments – 1 hour
Tidy & lock up – 20 minutes

Has Sandra booked the hall for enough time? Show her schedule and your working out.

College Canteen

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.



Task 3

10. Sean manages a college canteen. He buys laminate to cover the floor in the staff dining room.

The staff dining room is a 6m by 10m rectangle.

a. Sean chooses laminate which costs £8.49/m². **What is the total cost of laminate?**

b. TilesRus gives Sean 15% if he pays by cash or debit card. Sean decides to pay using debit card.

How much will Sean have to pay for the laminate if he chooses to buy from TilesRus?

11. Sean wants to put new floor tiles in his office. The floor is a 12.8m long x 8.9m wide rectangle. He chooses floor tiles that are 50cm by 50cm. The floor tiles come in packs. There are 20 tiles in each pack. Sean buys 23 packs of tiles.

**Will he have enough tiles for the floor? Draw a sketch and show your working.
Explain your answer.**

Living Room

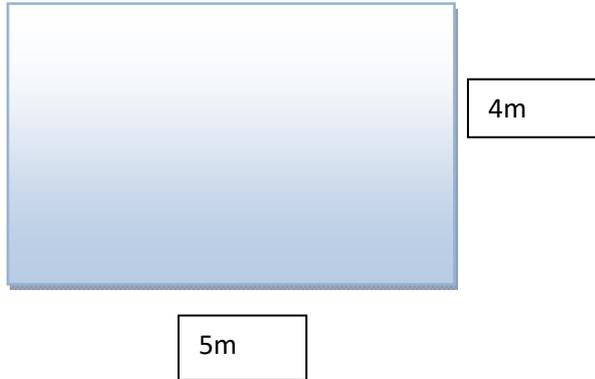
Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.

Task 4

12. Mr and Mrs Chang want to buy a carpet for their living room.

The room is a rectangle. The diagram below shows the living room floor.



Mr and Mrs Chang need to work out how much carpet to buy.

a. **Find the area of the living room floor.**

Mr and Mrs Chang want to buy a carpet for the living room and have the carpet fitted. They can buy the same make of carpet from two different shops.

A* Carpet Store

£10.95 per square metre
Fitting cost: £2.50/m²

Carpets Bright

£11 per square metre
Fitting cost: £45

Mr and Mrs Chang want to pay the cheapest total price for the carpet and fitting.

b. **Which shop should they buy the carpet from?**

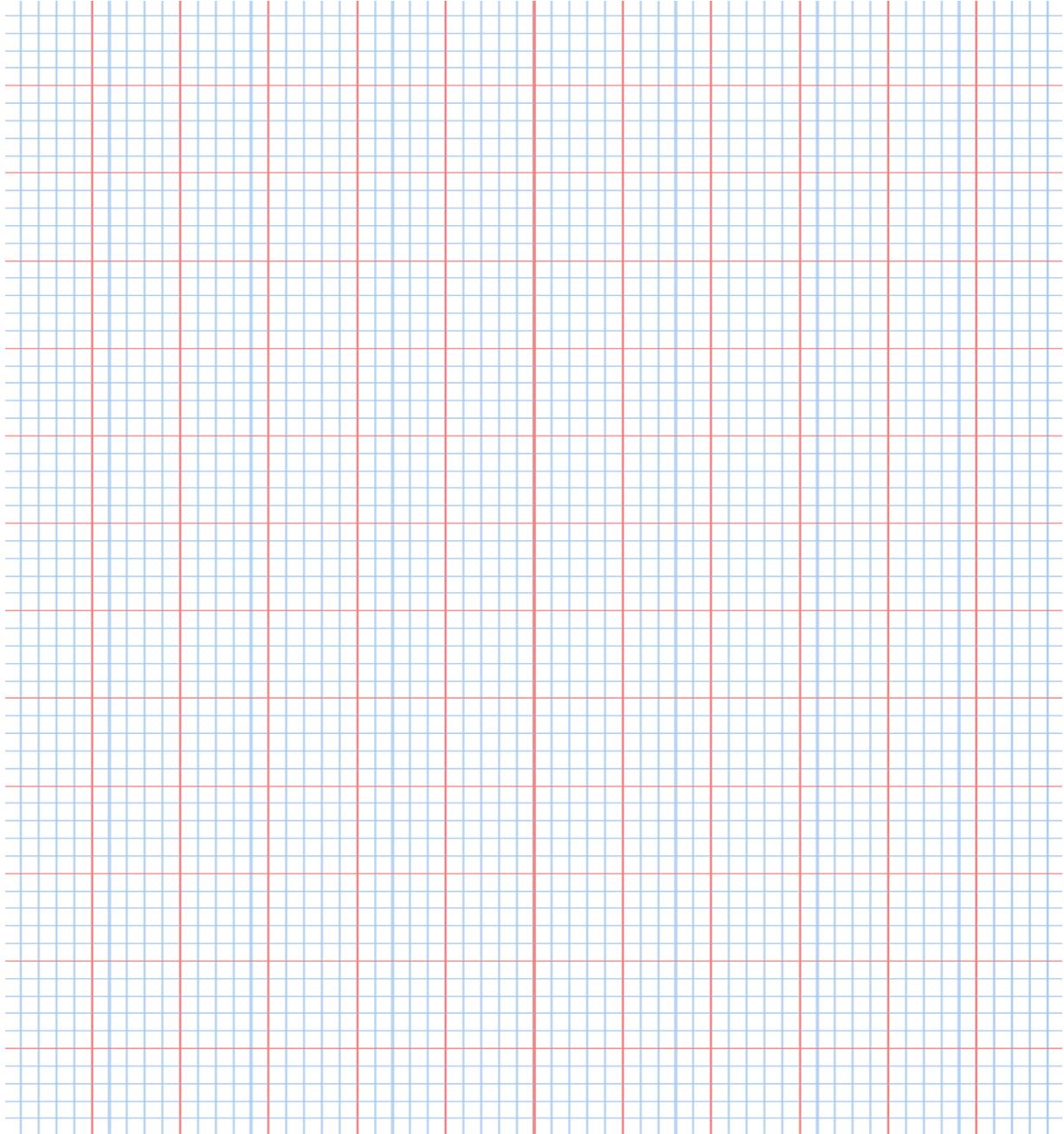
Living Room

Name _____ Date _____

SHOW ALL YOUR WORKING OUT EVEN IF YOU USE A CALCULATOR.



12c. Mrs Chang puts an 800mm x 1200mm rectangular mirror on the wall above the fireplace. She wants it to be an equal distance from the right hand side and the left hand side of the fireplace. The bottom of the mirror must be between 200 mm and 400 mm above the top of the fireplace.



The fireplace is 1m high x 1.6m wide.

Draw a plan to show the fireplace and where Mrs Chang could put the mirror.

Use this scale: 1 large square on the graph paper represents 200mm.

d. Mrs Chang wants new tiles for the fireplace. She works out that she needs a total of 60 tiles. Mrs Chang wants to use red tiles and blue tiles. She is going to use 1 red tile to every 2 blue tiles. **How many red tiles and how many blue tiles does Mrs Chang need? Show your working.**

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. However, in Functional Maths, it is the process skills that are assessed; these are key to successful Functional Maths teaching and learning and must be developed and stressed during teaching (see page 13). ✓ 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

- | | |
|---|---|
| <ul style="list-style-type: none"> a) Understand and use whole numbers and understand negative nos. in practical contexts ✓ b) Add, subtract, multiply and divide whole numbers using a range of strategies ✓ c) Understand and use equivalences between common fractions, decimals and percentages ✓ d) Add and subtract decimals up to 2 decimal places ✓ e) Solve simple problems involving ratio, where one number is a multiple of the other ✓ f) Use simple formulae expressed in words for one- or two-step operations ✓ | <ul style="list-style-type: none"> g) Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature ✓ h) Convert units of measure in the same system ✓ i) Work out areas and perimeters in practical situations ✓ j) Construct geometric diagrams, models and shapes ✓ k) Extract and interpret information from tables, diagrams, charts and graphs ✓ 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

- | | |
|---|---|
| <ul style="list-style-type: none"> a) understand and use positive and negative numbers of any size in practical contexts ✓ b) carry out calculations with numbers of any size in practical contexts, to a given number of decimal places ✓ c) understand, use and calculate ratio and proportion, including problems involving scale ✓ d) understand and use equivalences between fractions, decimals and percentages ✓ e) understand and use simple formulae and equations involving one or two operations f) recognise and use 2D representations of 3D objects ✓ | <ul style="list-style-type: none"> g) find area, perimeter and volume of common shapes ✓ h) use, convert and calculate using metric and, where appropriate, imperial measures ✓ i) collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate j) use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate. k) use statistical methods to investigate situations 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>

Pages 9-13 of this document (marks for each question, worked answers, detailed Functional Skills mapping, suggested pass marks for summative assessment) are only available to site contributors.

If you are a registered contributor of skillsworkshop (or want to become a contributor) please use the site contact box or email Maggie for a copy of the answer sheets