# Sample Paper 2
# Level 1 Functional Skills Mathematics

City & Guilds

Candidate Name (First, Middle, Last)

Candidate enrolment number

DOB (DDMMYYYY)

Candidate signature and declaration*

Assessment date (DDMMYYYY)

Centre number

**Length of assessment**:
**1 hour 30 minutes**

**You should have the following for this assessment**

- a pen with black or blue ink
- a pencil and eraser for graph work.
- a 30cm ruler.
- You may use a calculator.
- You may use a protractor.
- You may use a dictionary.

**General instructions**

- There are **3** tasks to complete.
- You should spend an equal amount of time on each task.
- Read through each task carefully.
- Show your working out. You may get marks for it.
- Check your calculations.
- Remember to put units on your answers.
- Write all working out and answers in this booklet.
- There are additional pages at the back of this booklet if you run out of space.

***I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.**

## Task 1 New job

There are **15** marks available for this task.
**You should check all your work as you go along.**

**Introduction**
This task is about how much you will earn in your new job.

**1A**
Your boss gives you this information.

| | |
|---|---|
| Pay per hour | £7.20 |
| Hours in a shift | $7\frac{1}{2}$ |
| Number of shifts a week | 5 |

How much money will you earn in a week?

Show your working

**Earning for a week £**

**(2 marks)**

**1B**

| **Notes from the Tax Office** |
| --- |
| You will pay National Insurance from your earnings. |

Use the method below to work out how much National Insurance you will pay a week.

Work out your **National Insurance** for a week

**Step 1** Multiply your earnings for the week by 0.12

**Step 2** Subtract £18.60 from your answer to Step 1

The answer to Step 2 is the amount of National Insurance you will pay

How much National Insurance will you pay a week?

Show your working

**Your national insurance for a week £**

**(3 marks)**

**1C**

| **Notes from the Tax Office** |
| --- |
| You will pay Income Tax on the money you earn **over** £207.69 a week. |

Income Tax is 20%.

How much money will you pay in Income Tax a week?

Show your working

**Your Income Tax for a week £**

**(3 marks)**

**1D**

When you have paid your National Insurance **and** Income Tax how much money will you get a week?

Show your working

**Money you get a week £**

**(2 marks)**

**1E**
Make a summary table to show your results.

**(3 marks)**

**1F**
Choose one of your calculations in **1A, 1B** or **1C** to show a check.

Check it by a **different** method to the one you used originally.
You can use approximation, a reverse calculation or any other suitable different method.

The calculation I am going to check is in **1A** ☐ **1B** ☐ **1C** ☐
(Tick one box)

Write your check here

**(2 marks)**

## Task 2 Garden decking

Decking

There are **15** marks available for this task.
**You should check all your work as you go along.**

### Introduction

This task is about choosing some decking for your garden.

Decking is a wooden surface that people have in their gardens.

You have to decide which decking kit to buy and work out how much varnish you will need to buy.

### 2A

The decking will be in the shape of a rectangle. It must be

- by the doors
- at least 1m from the garden pond and from the trees.

You have a price list for different decking kits. Choose a suitable decking kit.

| Name of decking kit | Length | Width | Price |
|---|---|---|---|
| Exeter | 3.0m | 2.4m | £155 |
| Lincoln | 3.6m | 3.0m | £199 |
| Durham | 4.0m | 3.6m | £225 |
| Whitby | 5.0m | 4.2m | £249 |

**Name of decking kit**

Draw the decking to scale on the plan on the page below.

Label your diagram and include a scale label.

**(7 marks)**

2.0m
1.2m
House
Garden pond
7.0m
7.0m

Key
window
fence
wall
doors
tree

**2B**

**Varnish £19.99**

A tin covers $4m^2$ of decking

Work out how many tins of varnish you need.

**You must** show your working

**Number of tins**

**(4 marks)**

**2C**

Work out the **total** cost for the decking and varnish.

Show your working

**Total cost for decking and varnish £**

**(2 marks)**

**2D**

You need to show a check of how you used the scale at **2A**.

Explain how you know one of the lines you drew on your diagram is the correct scaled length.

Write your check here

**(2 marks)**

## Task 3 Patient appointments

There are **15** marks available for this task.
**You should check all your work as you go along.**

**Introduction**
This task is about patients missing their appointments at a hospital.

**3A**
The hospital manager gives you some information about missed appointments.

| Number of missed appointments in 2015 | | | | | |
|---|---|---|---|---|---|
| **Month** | **Number** | **Month** | **Number** | **Month** | **Number** |
| **January** | 310 | **May** | 218 | **September** | 402 |
| **February** | 275 | **June** | 199 | **October** | 375 |
| **March** | 300 | **July** | 301 | **November** | 362 |
| **April** | 329 | **August** | 345 | **December** | 268 |

It costs the hospital £145 for each missed appointment.

How much did missed appointments cost the hospital in December 2015?

Show your working

**Cost of missed appointments £**

**(1mark)**

**3B**
What is the mean number of missed appointments per month in 2015?

Show your working

**Mean**

**(3 marks)**

**3C**
What is the mean number of missed appointments per month for 2015 **rounded to the nearest 10**?

Put your answer in the table below.

| **Mean number of missed appointments per month (rounded to the nearest 10) 2010 to 2015** | |
|---|---|
| **Year** | **Mean number missed appointments per month** |
| **2010** | 480 |
| **2011** | 490 |
| **2012** | 380 |
| **2013** | 360 |
| **2014** | 330 |
| **2015** | |

**(1mark)**

**3D**

Draw a chart to show the means for 2010 to 2015.

**(4 marks)**

**3E**

What does your chart show about the numbers of missed appointments from 2010 to 2015?

**(1 mark)**

**3F**

What is the range of the numbers of missed appointments per month in 2015?

Show your working

**Range**

**(2 marks)**

**3G**

Explain what the range tells you about the numbers of missed appointments.

**Explanation**

**(1 mark)**

**3H**

Choose one of your calculations in **3A**, **3B** or **3E** to show a check.

Check it by a **different** method to the one you used originally.
You can use approximation, a reverse calculation or any other suitable different method.

The calculation I am going to check is in **3A** ☐ **3B** ☐ **3E** ☐
(Tick one box)

Write your check here

**(2 marks)**

**Spare graph paper for 2A only**

**Spare graph paper for 3D only**

**End of assessment**