# Level 2 Functional Skills Mathematics
# Sample 3

A City & Guilds Group Business

Version 1-2

## Duration: 1 hour 20 minutes
## Total marks: 45 marks

## SECTION 2 – CALCULATOR PERMITTED

Candidate name (first, last)

First

Last

Candidate enrolment number

Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)

Centre number

Candidate signature and declaration*

• If you have used any additional answer sheets write the number of additional sheets in this box.
• Please ensure that you **staple** additional answer sheets to the **back** of this booklet, clearly labelling them with your full name, enrolment number, centre number and date in BLOCK CAPITALS.
• You must use a black or blue pen. You may use a pencil for charts and diagrams.
***I declare that I had no prior knowledge of the questions in this assessment and that I will not share information about the questions.**

**Please check that your name is correctly printed on the candidate barcode label. If not, please tell the invigilator before the start of the exam.**

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

- a pen with black or blue ink
- a pencil
- an eraser
- a 30cm ruler
- a calculator

**You must NOT use a protractor.**

**General instructions**

- Read through each question carefully.
- You may use a dictionary.
- Show your working out (where required).
- Write all your working out and answers in this booklet.
- Check your calculations and check that your answers make sense.
- There are additional pages at the back of this booklet if you run out of space or ask the invigilator if you need additional sheets of paper.



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## SECTION 2 – CALCULATOR PERMITTED

There are **45** marks in this section.

You should check all your work as you go along.

You may use a calculator.

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**Q1**

What is 12% of £5 300?

£ _____

**(1 mark)**

**Q2**

What is 23.3 x 0.463 correct to three decimal places?

_____

**(1 mark)**

**Q3**

Which one of the following lists is in decreasing order?

*(tick one box)*

**A** $\frac{315}{100}$ $\frac{1500}{924}$ $\frac{200}{57}$ $3\frac{2}{7}$ ☐

**B** $\frac{200}{57}$ $3\frac{2}{7}$ $\frac{315}{100}$ $\frac{1500}{924}$ ☐

**C** $\frac{200}{57}$ $\frac{1500}{924}$ $3\frac{2}{7}$ $\frac{315}{100}$ ☐

**D** $3\frac{2}{7}$ $\frac{1500}{924}$ $\frac{315}{100}$ $\frac{200}{57}$ ☐

**(1 mark)**



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**Q4**

What is the price of the phone before VAT of 20% is added?

_____

**(1 mark)**

**Q5**

**The results for a local election were**

| | | |
|---|---|---|
| Candidate One | 602 | votes |
| Candidate Two | 553 | votes |
| Candidate Three | 350 | votes |

What fraction of the votes did the winner get?

Give your answer in its simplest form.

$$\frac{\square}{\square}$$

**(1 mark)**



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**Q6**

A parent fills in a medical form about her 2-year-old child.

The parent measures her child's height with a tape measure and writes that the child is 3m tall.

The receptionist at the surgery thinks that the parent has made a mistake.

Is the receptionist correct?

**Is the receptionist correct?** *(tick one box)* **Yes** ☐ **No** ☐

**Explanation**

**(1 mark)**



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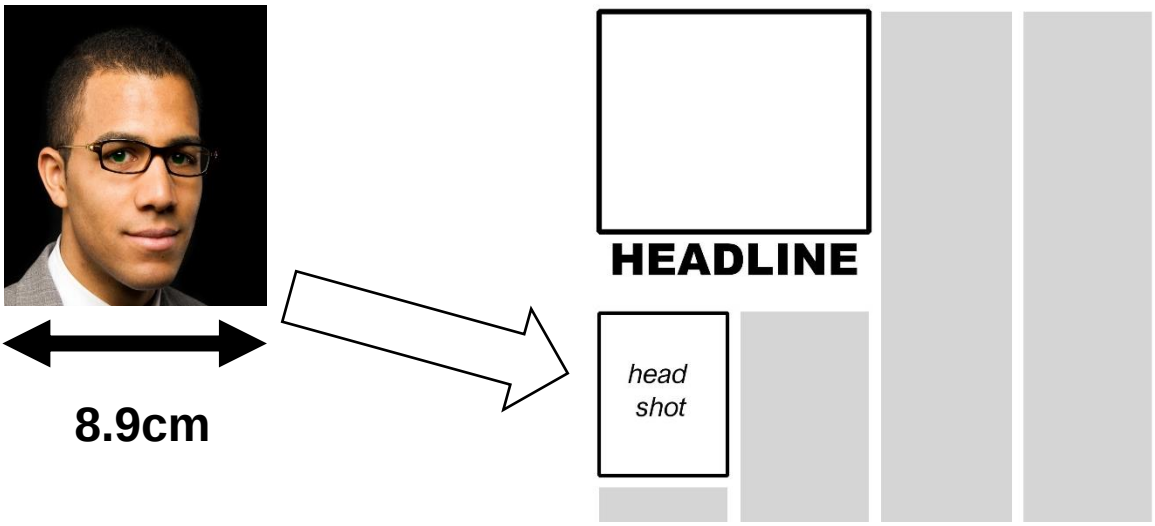
**Q7**

An editor needs to change the width of this photo to fit in a magazine.




The photo needs to be 32 mm wide.

What percentage of the original width will the changed photo be?

**Show your working**

_____ **%**

**(2 marks)**



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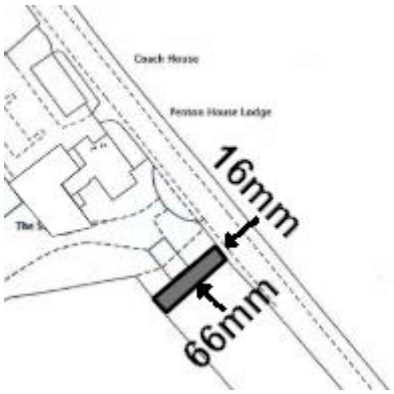
**Q8**

An estate agent needs to know the area of a plot of building land.

This plan shows the building land.




**Scale 1:1250**

**= building land for sale**

What is its area?

**Show your working**

_____ **m²**

**(3 marks)**



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**Q9**

An architect designs a shop refit.

The architect needs to work out the weight of an oak panel.

The oak panel measures 0.06 m x 0.9 m x 1.5 m

The density of oak is 700 kg per $m^3$

What is the weight of the oak panel in kg?

**Show your working**

**Weight of the oak panel** _____ **kg**

**(3 marks)**



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**Q10**

A cook needs to cook a turkey to be ready by 6pm.

The cook will start cooking the turkey at 1:30pm

Turkey needs to be cooked for 45 minutes per kg of total weight plus 20 minutes and then left to rest for 45 minutes.

The cook has a 4.4kg turkey.

Has the cook allowed enough time? Explain your answer using figures.

**Show your working**

**Has the cook allowed enough time?** *(tick one box)* **Yes** ☐ **No** ☐

**Explanation**

**(4 marks)**



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**Q11**

A cafe makes its own coffee blend by mixing different coffee beans together.

It uses Brazilian beans and Kenyan beans in a ratio of 4:1

The manager needs to mix enough beans to make **120 cups of coffee.**

Each cup of coffee needs 85g of beans.

He needs to know what weights of beans to use.

What are the weights of the beans he needs?

**Show your working**

**Brazilian beans** _____ **kg**

**Kenyan beans** _____ **kg**

**(4 marks)**



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**Q12**

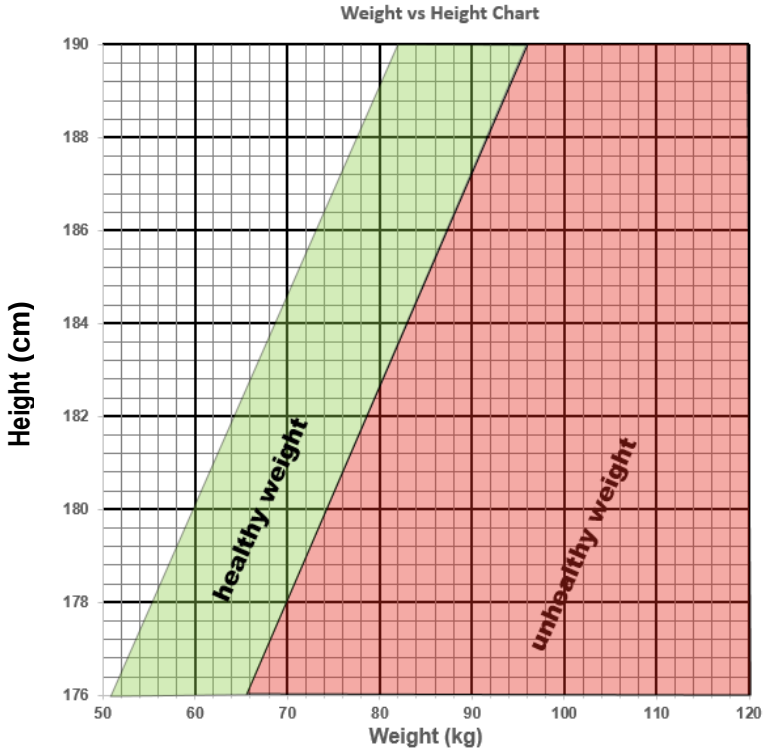
A man is 185cm tall and weighs 98kg. He wants to reach a healthy weight.

A doctor says he can lose 0.75kg a week if he follows a diet **and** exercises to burn 600 calories a week.

He plans his diet and decides to use Yoga exercise to burn 600 calories a week.

He will use one-hour Yoga classes that burn 200 calories. Each class costs £6.

He has £360 he can spend on Yoga classes




Does he have enough money to pay for the Yoga classes?

Explain your answer using figures.

**Show your working**

**Does he have enough money?** *(tick one box)* **Yes** ☐ **No** ☐

**Explanation**

**(5 marks)**



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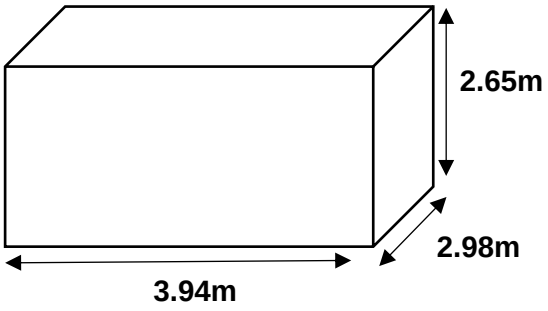
**Q13**

A house tenant has a budget of £75 to redecorate a room.

The room has two walls 2.98m long and 3.94m long and the wall is 2.65m high.




**Sketch of room**

**Not to scale**

She wants to paint one long wall and one short wall.

She wants to put wallpaper on the other short and long walls.

A 2.5L tin of paint costs £16 and covers 30m$^2$

A roll of wallpaper is 52cm wide and 10 m long.

Wallpaper

£10 per roll

Can the tenant decorate the room for the budget set?

Explain your answer using figures.

**Can the tenant decorate the room for the budget set?** *(tick one box)* **Yes** ☐ **No** ☐

**Show your working**

**Explanation**

**(6 marks)**



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**Q14**

A vet nurse in a pet rescue centre records weights and ages of kittens brought to the centre.

| Weights and ages of kittens brought to the centre | | | | |
|---|---|---|---|---|
| **weight (g)** | **age (days)** | | **weight (g)** | **age (days)** |
| 600 | 50 | | 660 | 50 |
| 340 | 28 | | 720 | 56 |
| 480 | 42 | | 420 | 28 |
| 360 | 20 | | 180 | 14 |

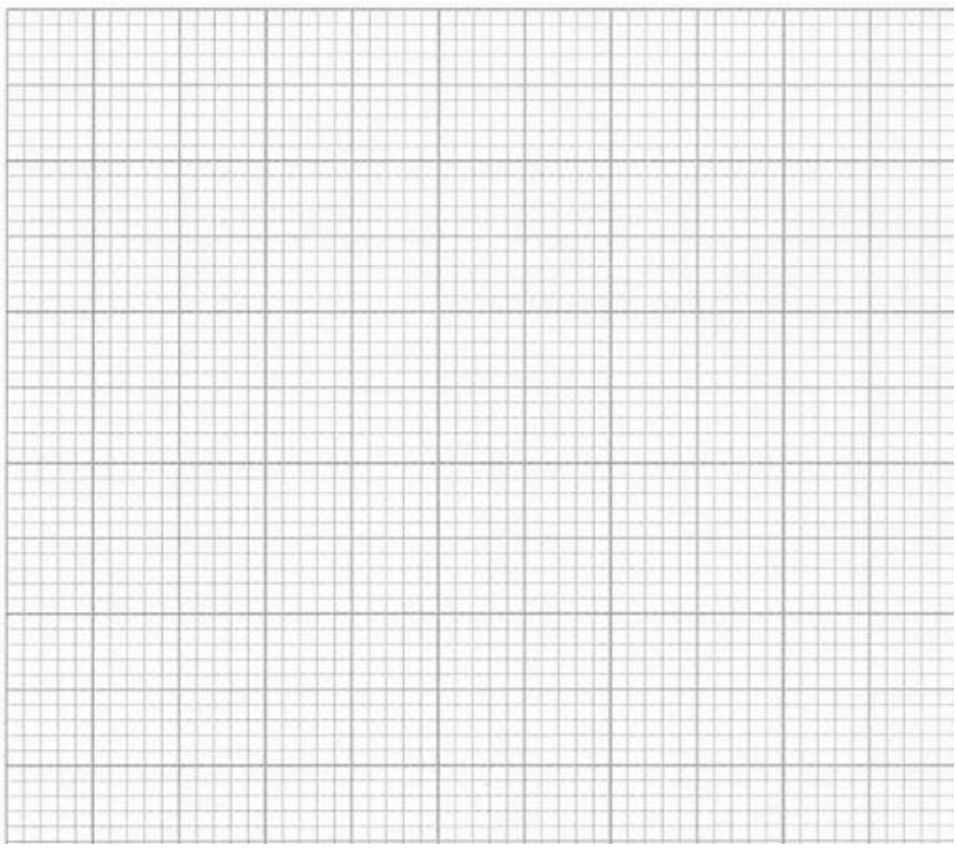
One day the centre receives an abandoned kitten. It weighs 460g

The nurse needs to estimate the age of the kitten.

Draw a suitable graph and trend line.

Estimate the age of the abandoned kitten.

Show on the graph how you made the estimation.



**Estimated age of rescued kitten _____ weeks**

**(6 marks)**



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**Q15**

A city council wants to encourage car sharing to cut pollution.

It takes a survey of cars entering the city and find these results.

| Average people in a car entering the city | |
|---|---|
| **Mean** | **Mode** |
| 1.65 | 1 |

It introduces a congestion charge for cars with only one person in the car.

It wants to know if the congestion charge is effective in making people share cars.

It takes another survey of the number of people in cars entering the city.

| **Number of people in a car** | Number of cars **after** the congestion charge is introduced (frequency) |
|---|---|
| 1 | 17 |
| 2 | 54 |
| 3 | 14 |
| 4 | 8 |
| 5 | 2 |
| 6+ | 0 |

Is the congestion charge effective?

Make two comments using the figures provided

**Is the congestion charge effective?** *(tick one box)* **Yes** ☐ **No** ☐

**Show your working**

**Comment 1**

**Comment 2**

**(6 marks)**



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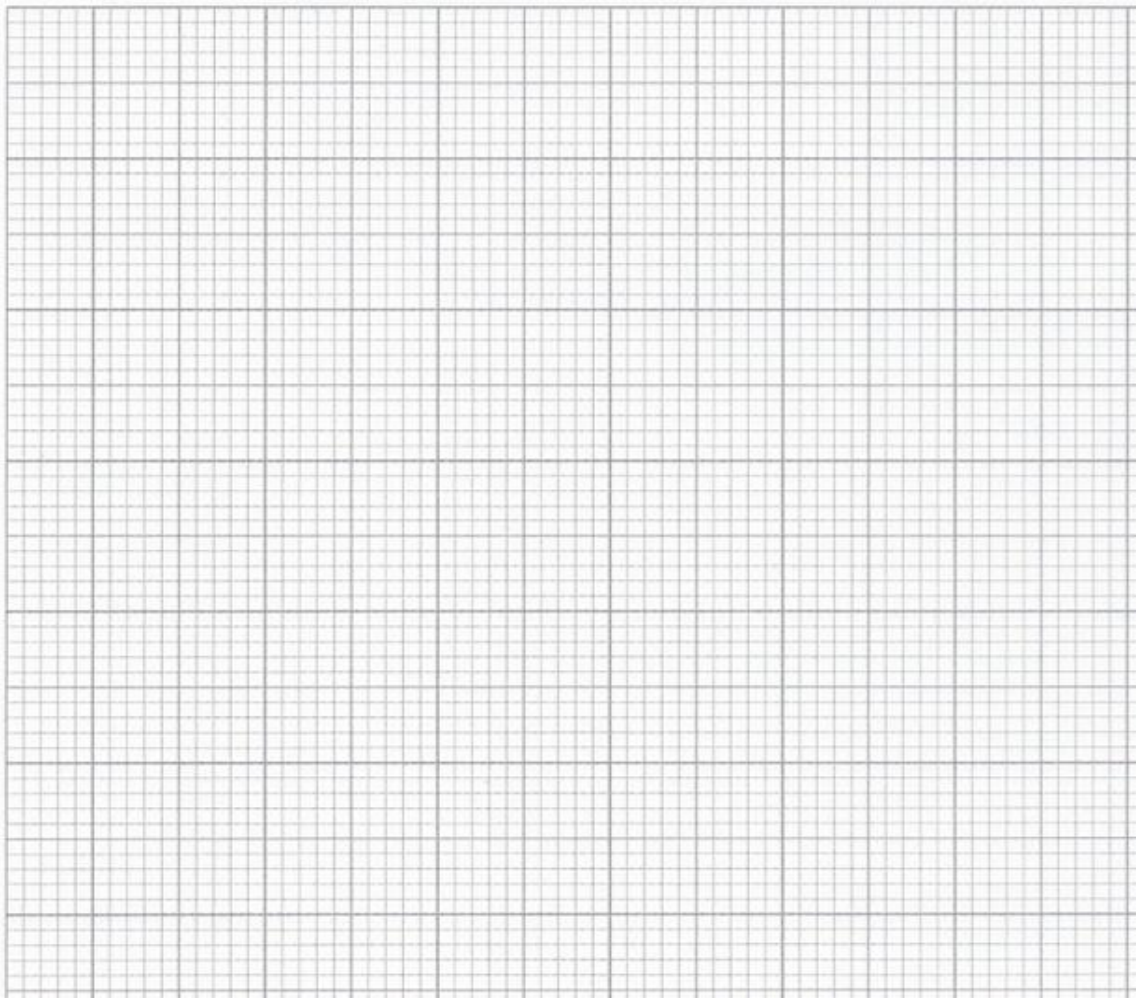
**Spare graph paper for Question 14**





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**Extra space for working out and answers**

**End of section 2**



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