# Level 2 Functional Skills Mathematics
# Sample 3

**Duration: 25 minutes**
**Total marks: 15 marks**

City & Guilds
A City & Guilds Group Business

Version 1-1

## SECTION 1 – CALCULATOR NOT PERMITTED

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Candidate name (first, last)

First

Last

Candidate enrolment number

Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)

Centre number

Candidate signature and declaration*

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

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**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.

**You must NOT use a protractor.**
**You must NOT use a calculator for Section 1.**

**General instructions**

- Read through each question carefully.
- You may use a dictionary.
- Write all your answers in this booklet.
- Check your calculations and check that your answers make sense.

.CG Maths.
Worked Solutions

**Please note that these worked solutions have neither been provided nor approved by City & Guilds and may not necessarily constitute the only possible solutions. Please refer to the original mark schemes for full guidance.**

Any writing in blue indicates what must be written in order to answer the questions and get the marks. The worked solutions have been designed to show the smallest amount of work which needs to be done to answer the question.

Anything written in green in a cloud doesn't have to be written in the exam.

Anything written in orange in a rectangle doesn't have to be written in the exam and is there to show what should be put into a calculator or measured using a ruler or protractor.

If you find any mistakes or have any requests or suggestions, please send an email to curtis@cgmaths.co.uk

## SECTION 1 – CALCULATOR NOT PERMITTED

There are **15** marks available in this section.

You should check all your work as you go along.

You must **not** use a calculator in this section.

# .CG Maths.

**Q1**

531 x 1.4 =

531
x 1.4
2124
5310
743.4

There is 1 decimal place in the 1.4 so there should be 1 decimal place in the answer

743.3

**(1 mark)**

**Q2**

$5^4$ =

25
x 5
125
x 5
625

$5^4 = 5 \times 5 \times 5 \times 5 = 25 \times 5 \times 5 = 125 \times 5 = 625$.
Multiplying by one 5 at a time

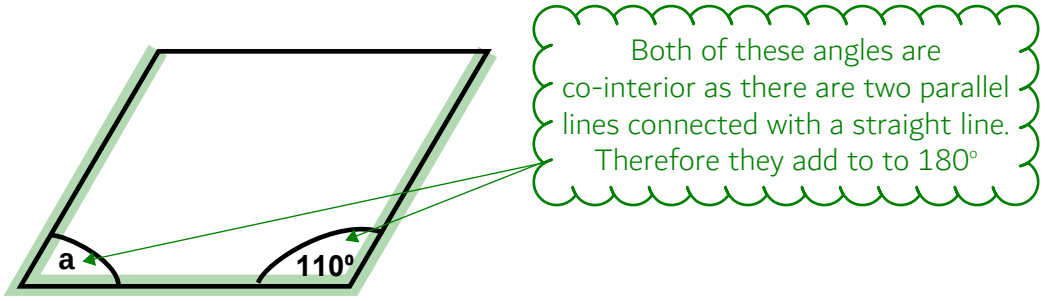
625

**(1 mark)**

**Q3**

The following diagram shows a parallelogram.

**Diagram not to scale**




What is the size of angle **a?**

180
−110
70

Angle **a** = 70 °

**(1 mark)**

**Q4**

Which one of the following works out to the largest number?

*(tick one box)*

**A** $\frac{3}{4}$ x 8 = 6 ☐

**B** $\frac{2}{6}$ x 12 = 4 ☐

**C** $\frac{3}{2}$ x 10 = 15 ☑

**D** $\frac{3}{12}$ x 36 = 9 ☐

**(1 mark)**

**Q5**

What is 52% as a fraction in its lowest terms?

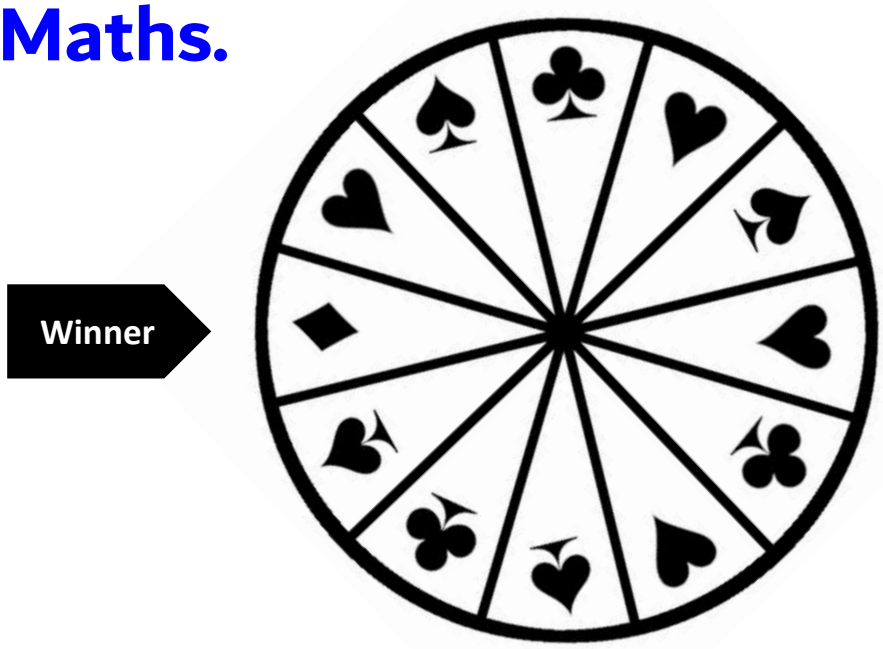
$$2\overline{)52} \quad 26 \qquad 2\overline{)26} \quad 13 \qquad 2\overline{)100} \quad 50 \qquad 2\overline{)50} \quad 25$$

Percentage is out of 100 so as a fraction 52% is 52/100. Simplifying it by dividing both the numerator and denominator by the same amount until they cannot be divided any more without getting decimals. 52/100 = 26/50 = 13/25

$$\frac{13}{25}$$

**(1 mark)**

**Q6**



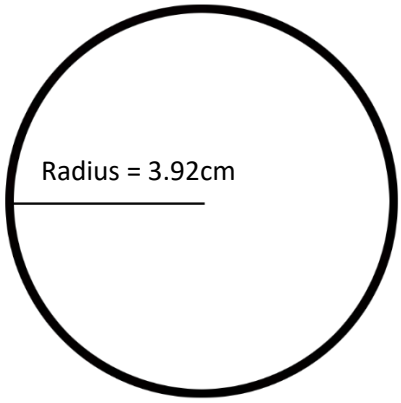

If the wheel is spun again what is the chance of ♦ being the winner?
Give your answer as a fraction.

1 out of the 12 possibilities is a diamond. The fact it has just been a diamond already has no impact on the next spin

$\frac{1}{12}$

**(1 mark)**

**Q7**




Which calculation gives an approximation of the area of this circle in $cm^2$?

*(tick one box)*

**A** 3 x 8 = ☐

**B** 3 x 4 = ☐

**C** 3 x 16 = ☑

**D** 3 x 9 = ☐

Area of circle = π x $radius^2$. π is about 3 and the radius is about 4. $4^2 = 16$

**(1 mark)**

**Q8**

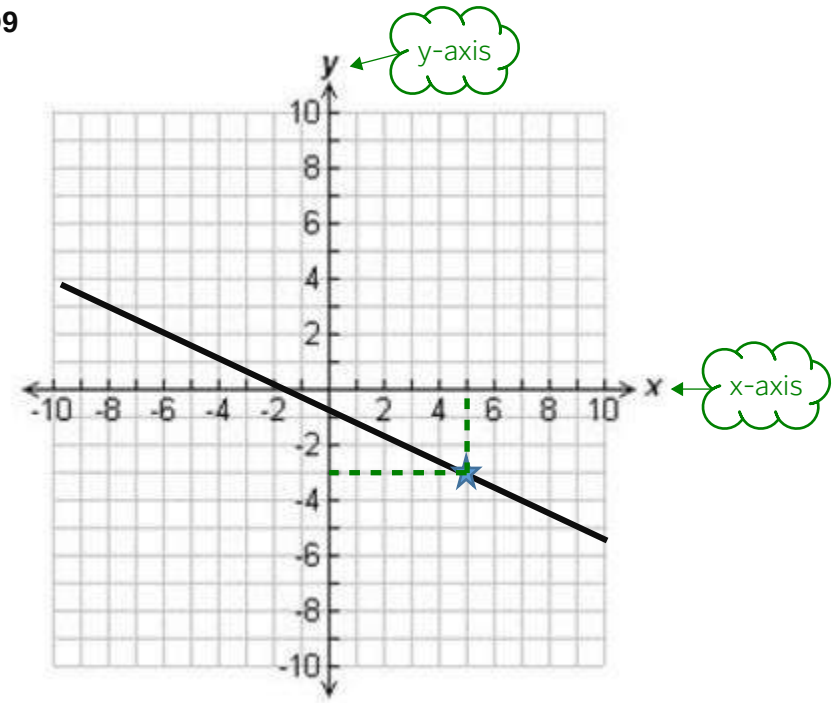
Calculate $\frac{8-4^2}{8} =$

$4^2 = 4 \times 4 = 16$
$8 - 16 = -16 + 8 = -8$
$-8/8 = -1$

-1

**(1 mark)**

**Q9**




What are the coordinates of the line at point ★?

*(tick one box)*

(x-coordinate , y-coordinate)

**A** (-5, 3) ☐

**B** (5, -3) ☑

**C** (-3, 5) ☐

**D** (3, -5) ☐

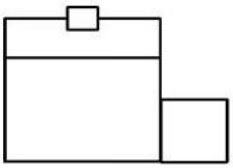
**(1 mark)**

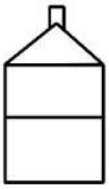
**Q10**

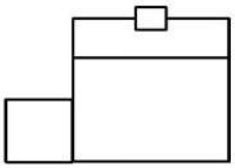

Only the features highlighted in green are on the front elevation

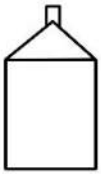
Which one of the following is the front elevation of the house from the view shown?

*(tick one box)*

**A**  ☐

**B**  ☐

**C**  ☑

**D**  ☐

**(1 mark)**

**Q11**

A commuter uses a bus and a train to get to work.

The train is more than 5 minutes late 1/6 of the times they use it

The bus is more than 5 minutes late 3/5 of the times they use it

What is the probability that **both** the bus and train will be more than 5 minutes late?

**Show your working**

$\frac{1}{6} \times \frac{3}{5}$

Bus late AND train late. AND means to multiply the probabilities, as they can be assumed to be independent events which are not effected by each other. To multiply fractions, multiply the numerators and multiply the denominators. The question does not ask to give the fraction in its simplest form so there should be no need to simplify

$\frac{3}{30}$

**(2 marks)**

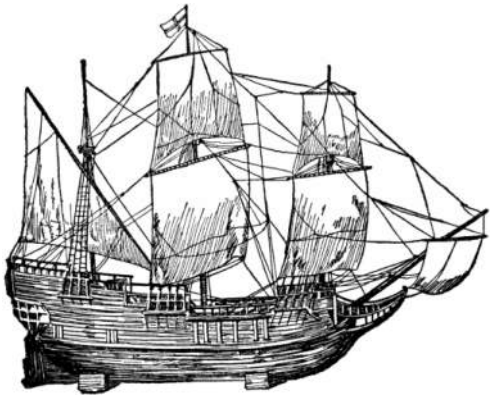
**Q12**

A model maker wants to make a model of a ship

He will use a scale of 1:50

The ship was 100ft long

1 foot = 0.3 m



How long will the model ship be in cm?

**Show your working**

$100 \div 50 = 2$ ← 50 is 50 times greater than 1. So dividing the real length by 50 works out that the model will be 2 feet long

$2 \times 0.3 = 0.6$ ← Each foot is 0.3m so this works out that the model will be 0.6m long

$0.6 \times 100$ ← There are 100cm in 1m so multiplying by 100 converts the metres into centimetres. The decimal point can be moved twice to the right to do this

60 **cm**

**(3 marks)**

**End of Section 1**