City & Guilds
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June 2015
Version 1

Functional Skills Mathematics
Level 1 sample assessment
Sample paper 6

These materials relate to the assessments that will be in use from September 2015

Candidate Name (First, Middle, Last)

Exemplar

Candidate enrolment number

DOB (DDMMYYYY)

Candidate signature

Assessment date (DDMMYYYY)

Centre number

Total marks	
Task	Mark
Total	

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
- a 30cm ruler
- graph paper
- a calculator
- a protractor.

- You may use a dictionary.

General Instructions

- There are **3** tasks to complete.
- Each task is worth 15 marks.
- 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.

Task 1 Minibus to the airport

There are **15** marks available for this task.

Introduction
This task is about booking a minibus to go to the airport.

You and seven friends are going on holiday. You will all fly from Hartford Airport.

You tell your friends

> We can get a minibus to take us to the airport and bring us back after the holiday.

You find this information on the internet.

E-travel airport minibuses
Book your minibus to and from the airport

Our charge = £75 for the first 75 miles of each journey + £1.90 for each mile over 75 miles.

Your journey	**Home to Hartford Airport**		
Distance:	**112 miles**	Time to drive:	**2 hours 20 minutes**

1A
How much will E-travel charge for the **two** journeys in **total**?

Show your working

112
− 75
37

1.90
× 37
1330
+5700
7030

£70.30 - 1 Journey

70.30
× 2
140.60 = 2 Journeys

£75.00
× 2
150.00

140.60
+150.00
290.60

Total charge £ 290.60

(4 marks)

1B

You and your friends will share the cost equally.
How much will each person pay for their share of the **two** journeys?

Show your working

£290.60 ÷ 8

36.325
8 | 290.6000

Each person pays £ 36.33

(3 marks)

1C

You and your friends **must** be at the airport **2 hours** before the flight is due to leave.
Your flight is due to leave at 21:25

What time **must** the minibus leave your house?

Show your working

21:25
− 2:00 hours
19:25 (Arrive airport)
− 20 mins
19:05
− 2:00 hours
17:05

Time for minibus to leave 17:05

(2 marks)

1D

Give one reason why you chose that time for the minibus to leave your house.

I Chose 17:05 because this allowed for the journey time and arrive at the airport 2 hours before the flight

(1 mark)

1E

Draw a table to show your friends all the information you have found out.

Include the total charge for the minibus travel, how much each of you will pay and what time the minibus will leave.

	Travel Cost	Travel Time
Total	£290.60	2hrs 20mins
You Pay	£36.33	
We leave		17:05

(3 marks)

1F

Choose one of your calculations in **1A** or **1B** 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** ☑
(Tick one box)

Write your check here

36.33
× 8
290.64

(2 marks)

Extra space for working out and answers

Task 2 Tomato plants

There are **15** marks available for this task.

Introduction
This task is about growing tomatoes.

You want to grow tomato plants in a vegetable plot in your garden.

2A
The plot measures 7m by 2m
Draw a scale diagram of the plot.

You want to fit in as many tomato plants as possible.
The plants must be 50cm gap from the edges of the plot.

Planting instructions

Put the plants in rows.

Leave a 50cm gap between plants.

Mark on your diagram where you will put each plant.
Use a cross (X) to show the centre of each plant.

Label the diagram. **(8 marks)**

Use the graph paper on the opposite page.

Space for working out

2 large Squares = 1 metre
7m x 2 = 14 squares
2 m x 2 = 4 squares
50cm = ½m = 1 square

2B

How many tomato plants will fit into the plot in total?

13 x 3 = 39

Number of plants 39

(1 mark)

2C

You should get between 12kg and 20kg of tomatoes from three tomato plants.

Estimate the total weight of tomatoes you can get from all your plants.

Show your working

39 ÷ 3 = 13

12kg × 13 = 156kg

20kg × 13 = 260kg

12 × 13 = 36, 120, 156

20 × 13 = 60, 200, 260

Total weight of tomatoes 156 kg - 260kg

(2 marks)

2D

The local farm shop offers to buy your tomatoes for 95p a kilogram.
You agree to sell half of your tomatoes.

How much money will you get from selling these tomatoes?

Show your working

260 ÷ 2 = 130kg

130 × 0.95

130 × 95 = 650, 11700, 12350 pence

Total money from selling the tomatoes £ 123.50

(2 marks)

2E

You need to show a check of how you used the scale at **2A**.
Explain how you know one of the lines on your diagram is the correct scaled length.

Write your check here

14 squares ÷ 2 = 7

(2 marks)

Task 3 Car repair service

There are **15** marks available for this task.

Introduction
This task is about the time it takes car mechanics to get to customers when their cars break down.

The company's target is to get to **95%** of customers in 40 minutes or less.

Information about breakdowns in June

Mechanic	Total number of breakdowns mechanic went to	Mechanic late to breakdowns		
		Number of times late	Number of minutes late	
Joe	42	1	7	7
Paul	39	4	5, 12, 15, 7 (39)	46
Liam	45	1	45	91
Sam	52	2	5, 8	104
Yas	41	3	10, 7, 5 (22)	126
Dev	48	1	6	132
Tariq	43	3	15, 22, 40 (77)	209
Dean	+ 50	+ 1	15	224
	360	16		

3A
You look at the information about breakdowns in June.
How many customers had to be reached on time to meet the target?

Show your working.
42 + 39 + 45 + 52 + 41 + 48 + 43 + 50 = 360 Breakdowns
360 ÷ 100 = 3.6
3.6 × 95 = 342

3.6
×95
1800
32400+
34200

34200 ÷ 100
= 342

Number of customers ~~39~~ 342

(3 marks)

3B

What is the total number of customers reached **on time** in June?

Show your working

$$\begin{array}{r} 3\overset{5}{6}0 \\ -\ 16 \\ \hline 344 \end{array}$$

Total number on time this month 344

(1mark)

3C

Was the 95% target met in June?

Give a reason for your answer.

Yes the 95% target was met in June because the target was 342 and they did 344 which is more.

(1 mark)

3D

Look at the breakdowns when the mechanics were late.

What is the mean number of minutes late per breakdown?

Show your working.

Total minutes = ~~2447~~ 224

Times late = 16

~~344 ÷ 16 = 14.5~~

224 ÷ 16 = 14

$$\begin{array}{r} 14.55 \\ 16\overline{)244.00} \\ -16 \\ \hline 84 \\ -74 \\ \hline 100 \\ -90 \\ \hline 10 \end{array}$$

Mean ~~14.6~~ 14

(3 marks)

In **May** mechanics were late to 18 breakdowns.
The mean time late to these breakdowns was 9 minutes.

3E

Draw a chart to compare the mean number of minutes late per breakdown in May and June.

(4 marks)

3F

Explain what your chart shows about the means for May and June.

The chart shows that the mean or average time someone has to wait for a breakdown truck increased from May to June.

(1 mark)

3G

Choose one of your calculations from **3B** or **3D** 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 **3B** ✓ **3D** ☐

(Tick the box)

Write your check here 344 + 16 = 360

(2 marks)

Extra space for working out and answers

End of assessment

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1 Giltspur Street
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EC1A 9DD
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