REVERSE CALCULATIONS

How to check your answers

You can use a calculator but

you must show all your workings out.

E3/L1

Name: _____

Date: _____

Maximum marks available = 40

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 1

A sandwich costs £3.34

a) You pay with a £10.00 note. How much change do you get?

b) Show a reverse calculation to check your answer.

E3.10, E3c (2 marks)

Question 2

Nicky has 244 packs of chocolate chip muffins.
In each pack there are 8 muffins.

a) How many muffins does she have altogether?

b) What calculation could you do to check your answer?

L1.2, L1.4, L1e (2 marks)

Question 3

You go out for a meal with three friends. The meal comes to £124 in total.

a) If you share the cost equally, how much do you each pay?

b) What calculation could you do to check your answer?

E3.3, E3.4, E3c (2 marks)

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 4

A ticket for a theme park costs £136.50
The train fare to get to the concert costs £28.75
You have this amount of money to start with:

a) How much will it cost for the concert and the train journey?

b) Show a reverse calculation to check your calculation in a).

c) How much money will you have left?

d) Show a way to check your calculation in c).

L1.11, L1e (4 marks)

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 5

A couple are going to Dublin for a weekend. The cost of their trip is shown below.

Item	Cost
Return flights for 2 people – East Midlands to Dublin	£236
Double room for 2 nights	£179
Return coach from airport to hotel for two	£48
Airport parking	£17
Total	**?**

a) What is the total cost of the trip? *Show all your working out in the box.*

b) The couple pay a deposit of £150.

They think there is £290 left to pay after the deposit has been paid.

Is this correct? Yes or no? *Show your working.*

E3.2, E3.21, E3c (3 marks)

Question 6

Jade has £77.50 in her bank account. She spends £48.60 using her debit card.

a) How much is left in her account?

b) Now check your answer.

E3.10, E3c (2 marks)

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 7

A group of four friends have booked a holiday to Jersey.

Item	Price
Accommodation for four	£435
Return ferry trip	£280
Travel insurance	£25
Total cost	**?**

a) How much does the holiday cost?

b) How much do they each have to pay if they share the cost?

c) Show a reverse calculation to check your answer to (b).

E3.2, E3.3, E3.21, E3c (3 marks)

Question 8

Sam wants to travel from Exeter by train and stay overnight in Edinburgh.

Item	Price
Return train fare – Exeter to Edinburgh	£184.00
Accommodation – 1 night	£79.00

a) Add up the total cost.

b) Sam has a voucher for £25 off the cost. How much does he pay after the discount?

c) Show a check of your answer to (b).

E3.2, E3.10, E3.21, E3c (3 marks)

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 9

A family book a dolphin watching tour. They need tickets for 2 adults and 2 children.

Dolphin tour	Price
Adult	£25.00
Child	£15.00
Family (2 adults and up to 3 children)	£85.00

a) Is it better value to buy a family ticket or individual adult and child tickets?

Show all your workings out below:

Individual tickets

Family ticket

b) What is the difference in cost between the two options?

c) Now do a reverse calculation to check your answer to (b)

E3.10, E3c (3 marks)

Question 10

During the coronavirus pandemic 75 people a day are allowed to visit an exhibition.

a) How many people can visit from Monday to Friday?

b) Now check your answer.

E3.3, E3.4, E3c (2 marks)

E3-L1 Functional Maths
Checking your answers with reverse calculations

Question 11a

There are 120 donkeys at a sanctuary. At night, four donkeys are put in each stable.

a) How many stables do they need?

b) Now check your answer.

E3.3, E3.4, E3c (2 marks)

Question 11b

24 donkeys from the sanctuary are used each day for children's donkey rides.

Rides are £3.50 for each child.

One Saturday, 216 children had a donkey ride.

Each donkey was used the same number of times.

a) How many times was each donkey used that day?

b) How much money did the sanctuary raise on donkey rides that day?

c) Now check your answers to (a) and (b).

L1.2, L1.4, L1.11, L1e (4 marks)

Question 12

Five friends buy food for their holiday.

They want to share the cost of the food equally between them. The food costs £94.60

a) How much must each of the 5 friends pay for the food?

Write your working and your answer in the box below.

b) Show how you can check your answer.

L1.11, L1e (2 marks)

Question 13

Mel wraps some parcels with bubble wrap.

Mel uses 326 cm of bubble wrap for a large parcel and half as much for a small parcel.

a) How much bubble wrap does Mel use for a small parcel? Write your answer in the box.

b) Show how you can check your answer.

E3.3, E3.4, E3c (2 marks)

Question 14

Ken helps to plan the sports day for Mill Lane School.

There are 700 students at the school.

Ken puts the students into 5 teams. Every team has the same number of students.

a) How many students are there in each team?

b) How you can check your answer? Write your check in the box below.

E3.3, E3.4, E3c (2 marks)

Question 15

Toby and three friends want to go on a holiday together.

In the travel agents a holiday to Turkey costs £467 for each person.

a) How much would it cost for Toby and his friends to go to Turkey?

b) How you can check your answer? Write your check in the box below.

L1.2, L1.4, L1e (2 marks)

Checking your answers with reverse calculations - curriculum mapping

Subject Content: Reformed Functional Skills Mathematics – Entry Level 3 & Level 1

✓✓ = **main content and problem-solving skill(s) covered in this resource**, although these will vary with the student group and how the resource is used by the teacher. ✓= minor coverage. *Content at each level subsumes and builds upon the content at lower levels.* **For a list of all content descriptors refer to** DfE (Feb 2018) https://www.gov.uk/government/publications/functional-skills-subject-content-mathematics

1. Fundamental mathematical knowledge and skills These must be demonstrated in their own right, **both with and without a calculator**, in addition to being used to solve problems or complete tasks.

Entry Level 3	Level 1
Using numbers and the number system (NS)	
2. Add and subtract using three-digit whole numbers ✓ 3. Divide three-digit whole numbers by single- & double-digit whole numbers and express remainders ✓ 4. Multiply 2-digit whole numbers by single- and double-digit whole numbers ✓	L1.2 Recognise and use positive and negative numbers ✓ L1.4 Use multiplication facts and make connections with division facts ✓ L1.11 Add, subtract, multiply and divide decimals up to two decimal places ✓
Using common measures, shape and space (MS)	
10. Calculate with money using decimal notation and express money correctly in writing in pounds and pence ✓	
Handling information and data (HD)	
21. Extract information from lists, **tables**, diagrams and charts and create frequency tables ✓	

2. Mathematical problem solving, carrying out tasks and decision-making - learners are expected to be able to use the knowledge and skills above to recognise problems and obtain a solution.

Entry 3 students are expected to be able to:	**Level 1 students** are expected to be able to:
Use the content knowledge and skills to recognise and obtain a solution or solutions to a:	
[1]**simple problem**. ✓	[2]**straightforward problem.** ✓
E3a. Use given mathematical information including numbers, symbols, simple diagrams and charts. ✓	
L1a. Read, understand & use mathematical information and mathematical terms used at this level. ✓	
E3b. Recognise, understand and use simple mathematical terms appropriate to Entry Level 3. ✓	
L1b. Address individual problems as described above. ✓	
E3c. Use the methods given above [i.e. in the relevant content descriptors] to **produce, check and present results** that make sense to an appropriate level of accuracy. ✓✓	
L1c. Use knowledge and understanding to a required level of accuracy ✓	
L1d. Analyse and interpret answers in the context of the original problem ✓	
L1e. Check the sense, and reasonableness, of answers ✓✓	
L1f. Present results with appropriate explanation and interpretation demonstrating simple reasoning to support the process & show consistency with the evidence presented ✓	

KEY: MCA = appropriate mathematical content area(s). I.e. number, measures or data.

Problem type:	[1]Simple problem	[2]Straightforward	Complex
Level:	All levels	L1 and L2 ✓	Level 2 only
Draws upon knowledge or skills from:	one MCA only	one MCA ✓ or a combination of any two MCA✓	up to a combination of any three MCA
Number of steps processes	1 ✓	More than 1 ✓	At least 2
Context	Familiar to all and easily described	Less familiar - requires some comprehension ✓	Less familiar - requires interpretation & analysis

Source: DfE (Feb 2018) https://www.gov.uk/government/publications/functional-skills-subject-content-mathematics