

Write your name here

Surname

Other names

**Edexcel**  
**Functional Skills**

Centre Number

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Candidate Number

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# Mathematics

**Level 1**



7 – 11 January 2013

**Time: 1 hour 30 minutes**

Paper Reference

**FSM01/01**

**You must have:**

Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, compasses.

Total Marks

**My signature confirms that I will not discuss the content of the test with anyone until the end of the 5 day test window.**

Signature: \_\_\_\_\_

## Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Sign the declaration.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

## Information

- The total mark for this paper is 48.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- **Where you see this sign you must show clearly how you get your answers because marks will be awarded for your working out.**
- **Check your working and your answers at each stage.**



## Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.

Turn over ►

P42390A



**PEARSON**

**SECTION A: Scuba diving holiday****Answer all questions in this section.****Write your answers in the spaces provided.**

- 1 Craig wants to go to Egypt for a scuba diving holiday. He finds this information about temperatures in Egypt. The table shows the average maximum daily temperatures each month.



Month	Sea temperature	Land temperature
Jan	21 °C	18 °C
Feb	20 °C	20 °C
Mar	21 °C	23 °C
Apr	22 °C	27 °C
May	24 °C	30 °C
Jun	25 °C	36 °C
Jul	26 °C	40 °C
Aug	28 °C	42 °C
Sep	29 °C	35 °C
Oct	27 °C	30 °C
Nov	25 °C	26 °C
Dec	23 °C	20 °C

Craig wants to go on holiday when

- the sea temperature is at least 25 °C
- the land temperature is more than 30 °C and less than 38 °C

- (a) Which month could Craig go on holiday to Egypt?  
Show why you think this.

(2)

Write your answer in the box below.

Craig finds these hotel prices for a one week holiday.

Hotel	Star rating	Price
Hotel Tropical (HT)	3 stars	£539
Beach Hotel (BH)	4 stars	£625
Desert Resort (DR)	4 stars	£639
Ocean Palace (OP)	5 stars	£695

**Scuba diving prices**

3 days	£96
4 days	£128
5 days	£155

Craig wants to stay in a hotel with a 4 star or 5 star rating.  
He also wants to scuba dive for 4 days.

Craig can spend up to £800 for the hotel and the scuba diving.

- (b) Can Craig afford the holiday?  
Show why you think this.  
Show how you have checked your answer.

(4)

Use the box below to show clearly how you get your answer.



**(Total for Question 1 is 6 marks)**

2 Craig is going to take his diving kit on holiday.

He makes a list of the items he needs to take and the weight of each item.

Packing list

Mask and snorkel	760 g
Wet suit	2.8 kg
Regulator	1.6 kg
Buoyancy device	3.3 kg
Fins	1.75 kg
Clothes etc.	7.4 kg



The weight of Craig's bag is 3 kg.

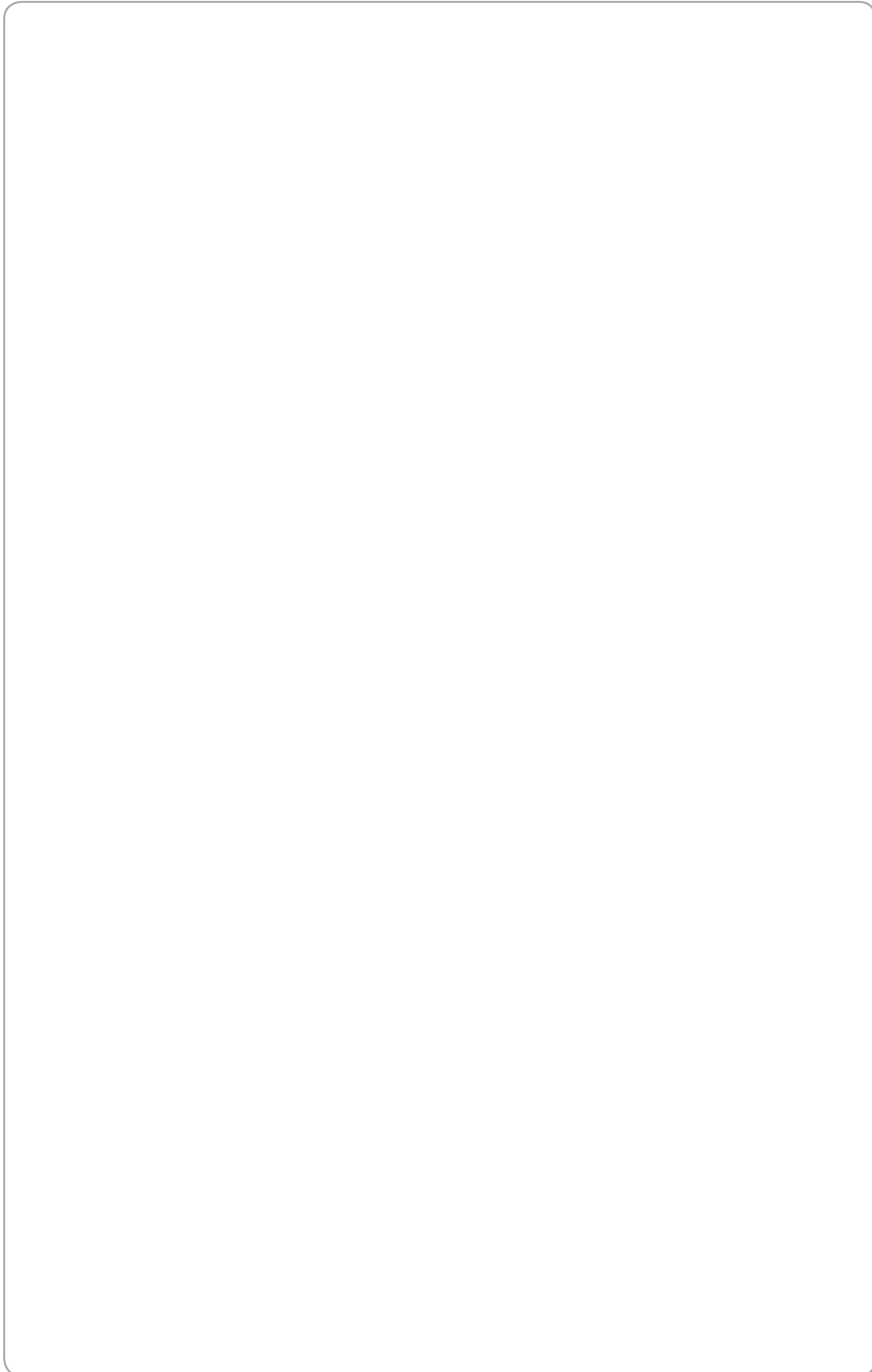
The total weight of his bag and all the items must be less than 22 kg.

Can Craig take all the items on his packing list?

(5)

Use the box below to show clearly how you get your answer.





**(Total for Question 2 is 5 marks)**

- 3 Craig is going to get a flight to Egypt.  
These are the times of buses going from his town to the airport.

***Express bus to the airport***

07:15	08:25	08:45	09:25	09:45	10:25
10:45	11:15	12:15	12:45	13:45	14:25

Craig's flight is at 13:50  
He must be at the airport at least 2 hours before his flight.

The bus usually takes 2 hours and 30 minutes to get to the airport.

- (a) Which bus should Craig get to make sure he is at the airport in time?

(3)

Use the box below to show clearly how you get your answer.



The price of a return ticket to the airport is £22

The bus company has a special offer for tickets booked online.

Craig books his ticket online and saves 10% of the ticket price.

(b) How much money does Craig save?

(2)

Use the box below to show clearly how you get your answer.



**(Total for Question 3 is 5 marks)**

**SECTION B: School leavers' party****Answer all questions in this section.****Write your answers in the spaces provided.**

- 4** Kara is a Year 13 student.  
She helps to plan the school leavers' party.

People pay £37.50 for the party.

Kara sees how much money people paid for the party each day last week.

Monday	£562.50
Tuesday	£262.50
Wednesday	£1050.00
Thursday	£187.50
Friday	£112.50

Kara thinks that almost 60 people paid for the party last week.

- (a) Is Kara correct?  
Show why you think this.

(4)

Use the box below to show clearly how you get your answer.





Kara needs to hire a DJ for the leavers' party.

The party is on a Friday evening.  
She needs to hire the DJ from 8 pm to 1 am.

Here is the price list for the DJ.

Sunday — Thursday evening (4 hours)	£285
Friday evening (4 hours)	£345
Saturday evening (4 hours)	£375
Extra hour (price per hour)	£55

(b) What is the total cost to hire the DJ for the leavers' party?

(3)

Use the box below to show clearly how you get your answer.



**(Total for Question 4 is 7 marks)**

5 The total number of people coming to the leavers' party is 107

They will sit at tables for a meal.

Each table can have up to 8 people.

(a) What is the smallest number of tables Kara needs for the party?

(2)

Use the box below to show clearly how you get your answer.



This is the menu for the meal at the leavers' party.

<p style="text-align: center;"><b><i>Menu for the leavers' party</i></b></p> <p style="text-align: center;"><b><i>Starter</i></b> Soup <b>or</b> Melon</p> <p style="text-align: center;"><b><i>Main Course</i></b> Chicken <b>or</b> Nut roast</p> <p style="text-align: center;"><b><i>Dessert</i></b> Apple pie <b>or</b> Brownie</p>
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Kara needs to know the menu choices for each of the 8 people at a table.

(b) Design a data collection sheet to record the menu choices for 8 people at one table.

(3)

Use the box below to show your data collection sheet.

**(Total for Question 5 is 5 marks)**

6 Mr Chadwick is Head of Year 13.

He makes some notes about the school leavers' party.

School leavers' party - Class of 2013

- DJ finishes at 1 am
- Dancing starts after the awards
- Photographer arrives at 6.30 pm
- Meal starts at 8 pm allow 1 hour 30 minutes
- Awards after the meal - 45 minutes
- Welcoming drinks before the meal - 30 minutes

Mr Chadwick needs a time plan for the school leavers' party.

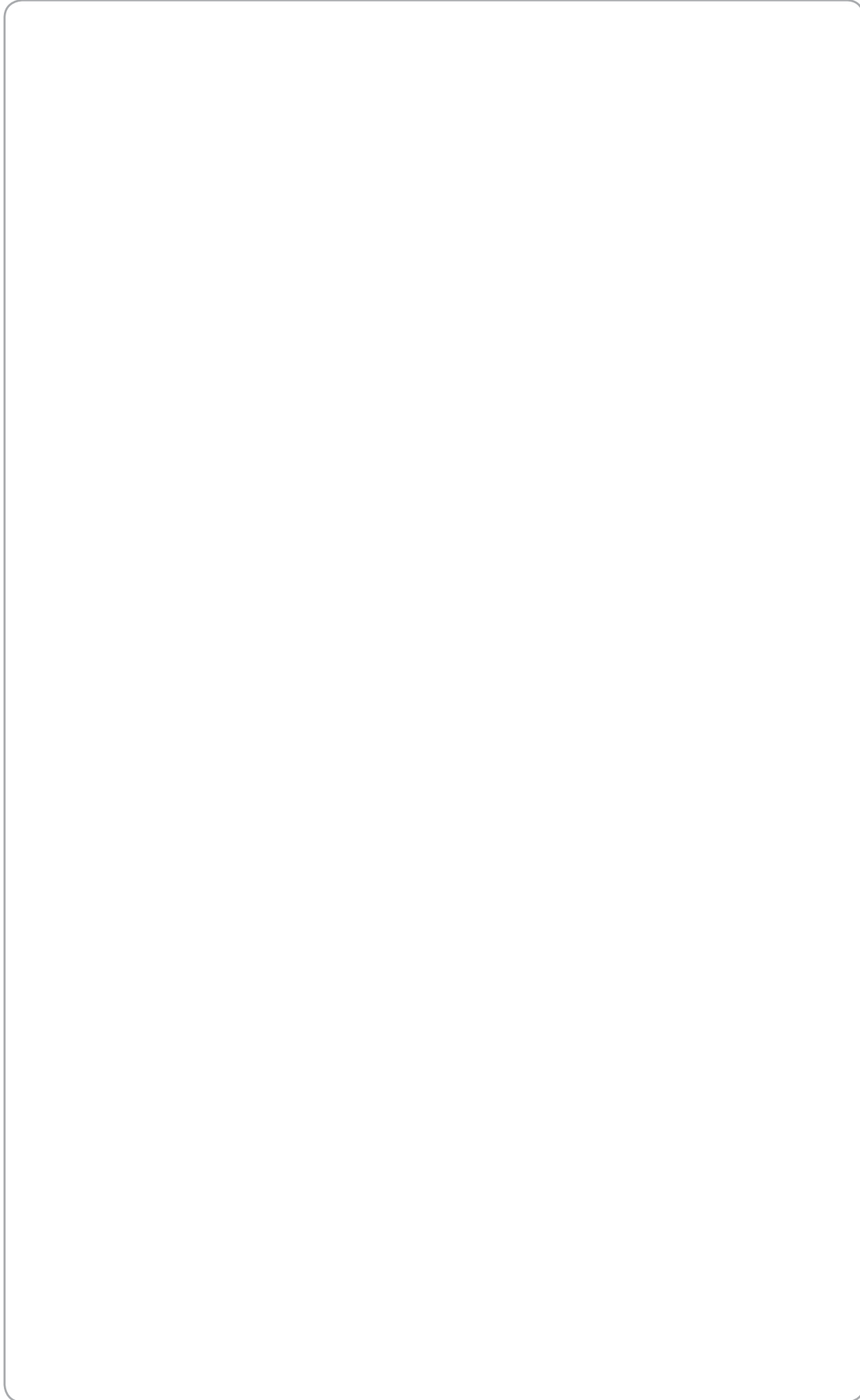
It must show

- the activities in order
- the start time for each activity.

Make a time plan for Mr Chadwick.  
Remember to check your time plan.

(4)

Use the box below to show your time plan.



**(Total for Question 6 is 4 marks)**

**SECTION C: Garden improvements****Answer all questions in this section.****Write your answers in the spaces provided.**

- 7 Ben and Ruth need 2000 kg of gravel for their garden.

They can buy gravel in 500 kg bulk bags or in 50 kg packs.

500 kg bulk bag

£109 each

Buy 3 bulk bags for £265

50 kg pack

£11.75 each

Buy 3 packs get the 4th pack free

Ben and Ruth want to pay the cheapest total cost for the gravel.

How much do Ben and Ruth pay for 2000 kg of gravel?

(6)

Use the working box to show clearly how you get your answer.





**(Total for Question 7 is 6 marks)**

8 Ben and Ruth want to have a vegetable patch and a pond in their back garden.

They draw a plan of the garden on a grid.

The vegetable patch must

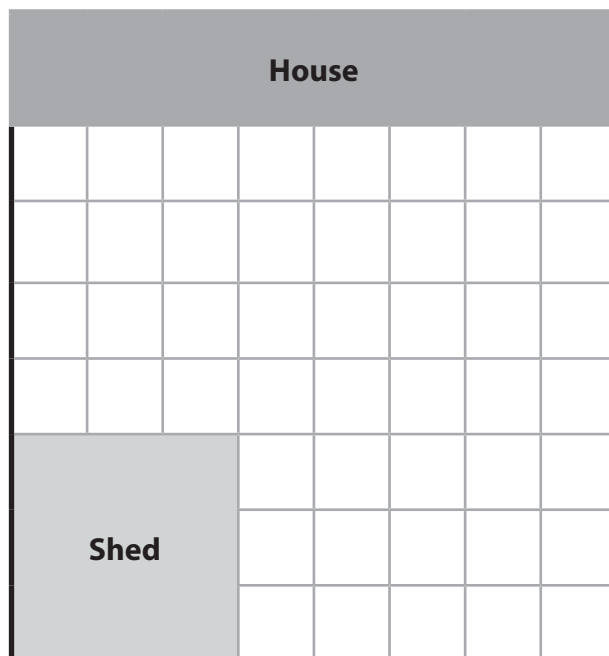
- have an area of  $9 \text{ m}^2$
- be at least 1 m from any fence or the house.

The pond needs

- a rectangular space 2 m by 1 m
- to be at least 3 m from the house.

(a) Show the vegetable patch and the pond on the grid.

(4)



Key: 1 square on the grid is  $1 \text{ m}^2$  in the garden

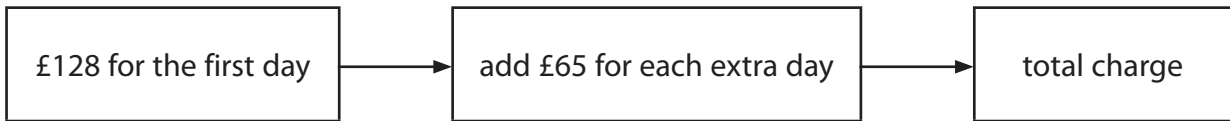
— fence



Ben wants to hire a stump grinder for 3 days to remove tree stumps in the garden.

His local garden centre hires out stump grinders.

The garden centre uses this rule to work out how much to charge.



The garden centre charges Ben £323 for 3 days.

The charge is wrong.

(b) Show why £323 is the wrong charge for 3 days.

(3)

Use the working box to show clearly how you get your answer.



(Total for Question 8 is 7 marks)

- 9 Ruth wants to make compost for the vegetable patch.  
The garden centre adviser tells her

You need 3 parts of brown carbon waste  
for every 1 part of green nitrogen waste.

He gives Ruth this information.

<b>brown carbon waste</b>	<b>green nitrogen waste</b>
straw	grass clippings
dried leaves	vegetable scraps
cardboard	weeds
newspaper	coffee grounds
sawdust	manure
egg shells	fish meal

Ruth has these buckets of waste.



2 buckets of  
grass clippings



11 buckets of  
sawdust



1 bucket of  
vegetable scraps



1 bucket of  
weeds



3 buckets of  
newspaper

Ruth needs to work out which buckets of waste she should use to make compost.

She wants to use

- 3 parts of brown carbon waste for every 1 part of green nitrogen waste
- all of her green nitrogen waste.

What should Ruth put in the compost?

(3)

Use the working box to show clearly how you get your answer.



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**(Total for Question 9 is 3 marks)**

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**TOTAL FOR PAPER IS 48 MARKS**

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