

Write your name here

Surname

Other names

**Pearson Edexcel
Functional Skills**

Centre Number

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Candidate Number

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Mathematics

Level 2



20 – 24 July 2015

Time: 1 hour 30 minutes

Paper Reference

FSM02/01

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 a **black** 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 ►

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PEARSON

SECTION A: Holiday

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Pat and Chris are going on holiday to Tenerife.
The time in Tenerife is the same as the time in London.

Pat finds this information on the internet.

London to Tenerife		
Flight number	Departure time	London airport
A101	06 45	Stansted
A102	07 35	Gatwick
A103	11 50	Stansted
A104	13 10	Gatwick
A105	13 45	Luton
A106	14 10	Luton
A107	16 40	Gatwick

Tenerife to London		
Flight number	Departure time	London airport
B201	11 50	Stansted
B202	12 45	Gatwick
B203	16 25	Stansted
B204	18 10	Luton
B205	18 30	Gatwick
B206	19 35	Luton
B207	21 50	Gatwick

Pat and Chris are going to fly from a London airport to Tenerife.
They must fly back from Tenerife to the same airport they left from.

All flights take 4 hours.

Pat and Chris want to arrive in Tenerife before 2 pm.
They want their flight back from Tenerife to leave after 2 pm.

(a) Which flights should they choose?

(2)

Write your answer in the box below.

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Pat is going to rent a villa in Tenerife.
It costs 960 euros to rent the villa.

Pat is going to pay for the villa by bank transfer.
The bank charges £25 for the transfer.

Pat uses $\text{£}1 = 1.17$ euros.

Pat tells Chris it is going to cost less than £850 to pay for the villa and the transfer.

(b) Is Pat correct?
Show why you think this.

(4)

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



A large empty rectangular box for writing the answer.

(Total for Question 1 is 6 marks)



2 Pat and Chris have paid to take up to 40 kg of luggage on the flight.

Pat weighs the luggage on their bathroom scales.

The total weight of the luggage is 6 stone and 2 pounds.

Pat knows that

- 1 stone = 14 pounds
- 2.2 pounds = 1 kg

Does the luggage weigh less than 40 kg?

(3)

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



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(Total for Question 2 is 3 marks)

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3 Pat and Chris hire a car in Tenerife.

The car travels an average of 14 km per litre of petrol.

Petrol costs €1.10 per litre in Tenerife.

Chris thinks they will drive about 750 km.

(a) How much will the petrol cost to drive 750 km?

(3)

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



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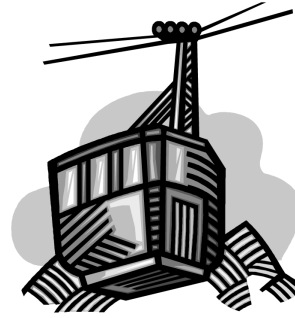
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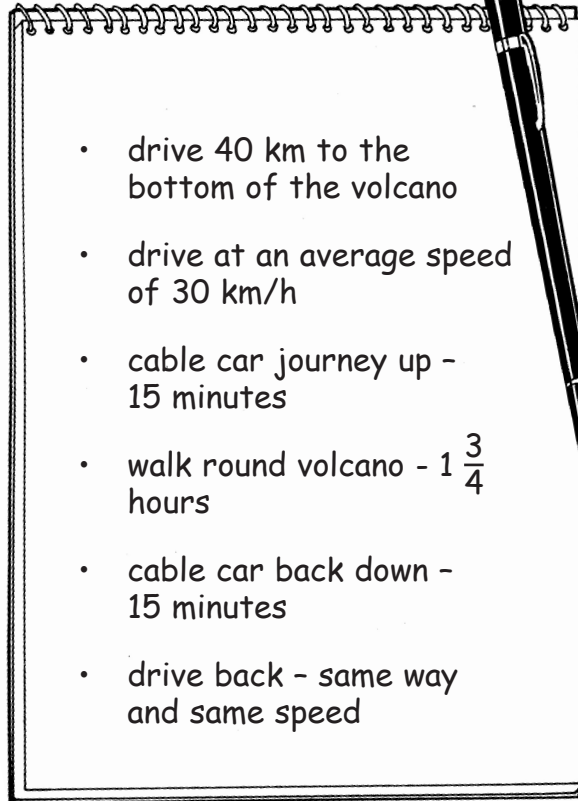
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Pat and Chris plan a trip to a volcano.

They make notes about the trip.



- 
- drive 40 km to the bottom of the volcano
 - drive at an average speed of 30 km/h
 - cable car journey up - 15 minutes
 - walk round volcano - $1\frac{3}{4}$ hours
 - cable car back down - 15 minutes
 - drive back - same way and same speed

Pat wants to be back at the villa by 4 pm.

(b) What is the latest time they should start their trip?

(4)

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(Total for Question 3 is 7 marks)

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SECTION B: Dance group

Answer all questions in this section.

Write your answers in the spaces provided.

- 4 Brian helps to organise a dance group.



The group meets 46 times each year in a village hall.
Brian pays £18 per meeting to hire the village hall.

There is a total of 21 people in the dance group.
They all have to pay £3 for each meeting.
They pay for every meeting even if they do not go to all the meetings.

7 people pay for all the meetings at the beginning of the year.
These people get a 5% discount.
The rest of the people pay at the meetings.

Brian needs to know how much money will be left at the end of the year.

How much money will be left at the end of the year?

(6)

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(Total for Question 4 is 6 marks)

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- 5 Jane is going to make new dresses for the women in the dance group. She goes to Ashley's to buy some material.

The material is on sale.

Ashley's Material Shop
SALE
 $\frac{1}{3}$ off the normal price
normal price £18.90 per metre

Jane plans to make 12 dresses.
She needs to buy 2.5 metres of material for each dress.

Jane has a budget of £350

(a) Can Jane afford to buy all the material she needs?

(4)

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



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The dancers use sticks in some of the dances.
Jane needs some ribbon to tie on the sticks.

She needs to buy enough ribbon for 20 sticks.

Each stick has 8 pieces of ribbon.
Each piece of ribbon is 30 cm long.

The ribbon is sold in rolls.

Each roll has 25 m of ribbon.



(b) How many rolls of ribbon does Jane need to buy?

(3)

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



A large, empty rectangular box intended for the student to show their working out for the problem.

(Total for Question 5 is 7 marks)



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6 The group is going to dance at a village fair.

The table shows the dances the group will do.

It also shows how many men and how many women are needed for each dance.

Time	Dance	Number of men	Number of women
2:00 – 2:10	Leyland	4	4
2:10 – 2:20	Manley	4	4
2:20 – 2:30	Colne	3	3
2:30 – 2:40	Goostrey	4	4

The table below shows the people who are going to the fair and the dances each person can do.

		Dances			
Name		Leyland	Manley	Colne	Goostrey
Men	Brian	✓	✓	✓	✓
	Peter	✓	✓	✓	✓
	Mike	✓	✓		✓
	Dan	✓		✓	✓
	Colin		✓		✓
	Albert		✓	✓	✓
Women	Sarah	✓	✓		✓
	Jane	✓	✓	✓	✓
	Helen	✓	✓	✓	
	Farida				✓
	Katie	✓	✓	✓	✓
	Ellie		✓	✓	✓

Brian needs to organise the dances.

- Peter and Colin cannot both dance at the same time.
- Each person will dance a maximum of 3 dances.

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Brian starts to make a plan to show who will do each of the dances.

Complete the plan for Brian.

(3)

Dance	Men	Women
Leyland	Brian Peter Dan Mike	
Manley		
Colne		
Goostrey		

(Total for Question 6 is 3 marks)



SECTION C: Shepherds hut

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Sue and Tim have a field.
They want to buy a shepherds hut to put in the field.
People will rent the hut for holidays.



Sue and Tim find this information.

Shepherds huts and fittings	Price
14 foot by 8 foot hut	£6800
16 foot by 8 foot hut	£7335
Stable door	£140
Wood burner	£750
Wood store	£155
Cupboard	£145
Shower room	£2125
Bed	£190

Sue and Tim want to buy a

- 16 foot by 8 foot hut
- Wood burner
- Shower room
- Bed

Tim works out that the total cost will be less than £10 000

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

(2)

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



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Sue needs to find a price to charge to rent the hut for holidays.
She finds the price 8 other people charge to rent their huts.

£450	£445	£440	£390
£400	£495	£550	£420

Sue wants to work out the mean average charge.

(b) Work out the mean average charge for Sue.
Show that you have checked your answer.

(3)

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



Show how you have checked your answer in the box below.



(Total for Question 7 is 5 marks)



8 Tim needs to buy gravel to make a base for the hut to stand on.

Tim draws a sketch of the base.

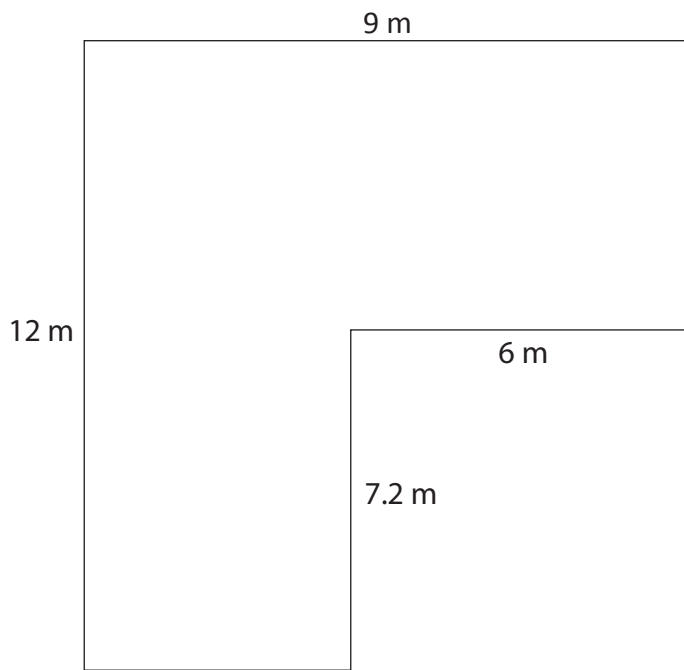


Diagram **NOT** accurately drawn

The depth of the gravel will be 0.07 metres.

Tim uses this formula to work out how much gravel he needs.

$$V = A \times d$$

$V = \text{volume (m}^3\text{)}$
 $A = \text{area (m}^2\text{)}$
 $d = \text{depth (m)}$

Tim orders 5 m³ of gravel.

(a) Has Tim ordered enough gravel? (6)

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Tim is going to put a patio outside the hut.
The patio will be in the shape of a rectangle with length 7.2 m and width 6 m.

Tim is going to use paving stones to make the patio.
Each paving stone is square with sides of 600 mm.

Tim has already got 110 paving stones.

(b) Does Tim need to buy more paving stones?

(3)

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



Large empty rectangular box for showing the solution to the problem.

(Total for Question 8 is 9 marks)

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9 Sue advertises the hut on a website.

She charges a rent of £475 for one week.

Sue pays the website £14.25 each time someone rents the hut for one week.

She works out that this is 3% of the rent.

Show that Sue is correct.

(2)

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



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(Total for Question 9 is 2 marks)

TOTAL FOR PAPER IS 48 MARKS



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