

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



14–18 May 2012

**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

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**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.**



## Advice

- Read each question carefully before you start to answer it.
- Show all stages in the calculations.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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6/6/4



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**PEARSON**

## SECTION A: The marathon

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Dominic is going to run a marathon.  
He needs a training plan.

Dominic makes notes about his training next week.

- Run 3 times, including 1 run at the weekend.
- Exercise at the gym twice.
- One day for stretching exercises.
- Have a rest day with no training.
- Do one thing each day.
- Don't do the same thing two days in a row.

(a) Make a training plan for Dominic for next week.

(2)

Use the box below to show your training plan.



Dominic makes energy drinks to have when he is training.  
He buys a 500g tin of energy powder.

He uses 35g of energy powder to make each energy drink.

Dominic thinks he can make 14 energy drinks from the 500g of powder.

(b) Is Dominic right?  
Show why you think this.

(3)

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 5 marks)



- 2 Dominic's training includes a practice run each week.  
The table shows the times for his last five practice runs.

	Week 1	Week 2	Week 3	Week 4	Week 5
Time (mins)	115	111	112	105	98

Dominic thinks his practice run times are improving.

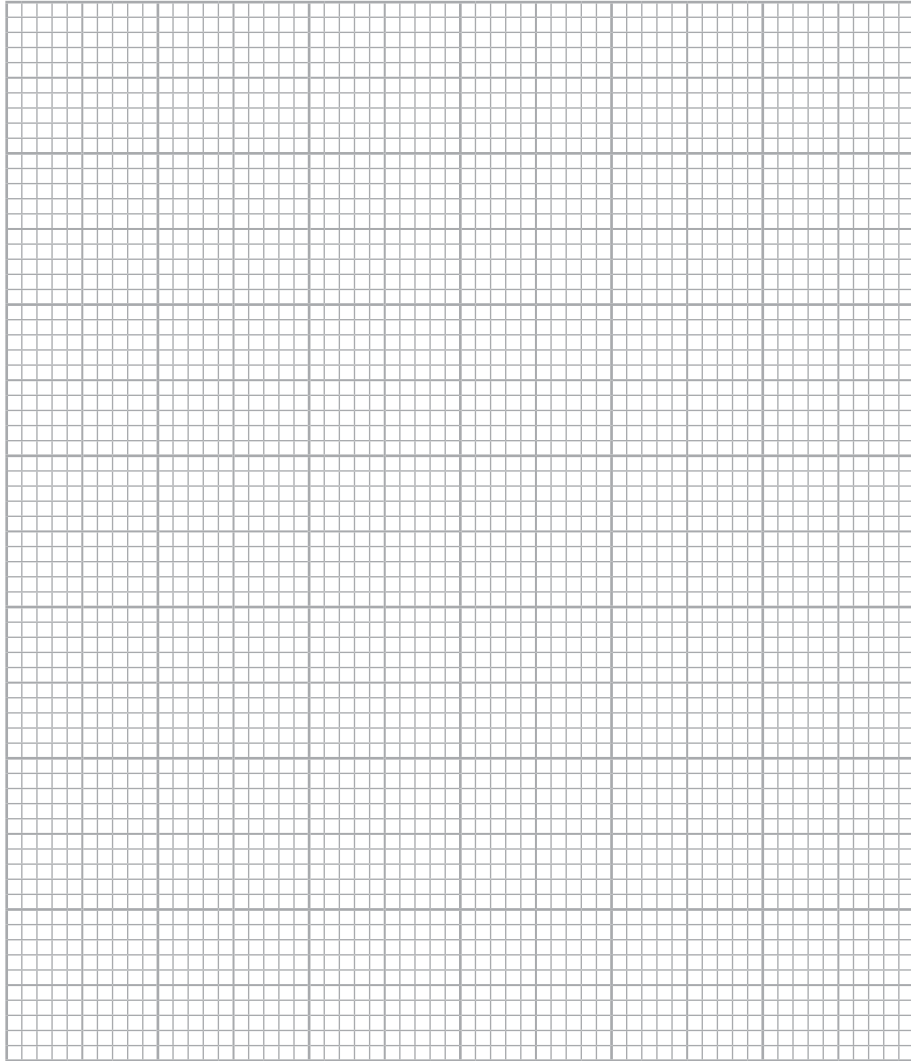
- (a) Is Dominic right?  
Explain why you think this. (1)

Write your answer in the box below.

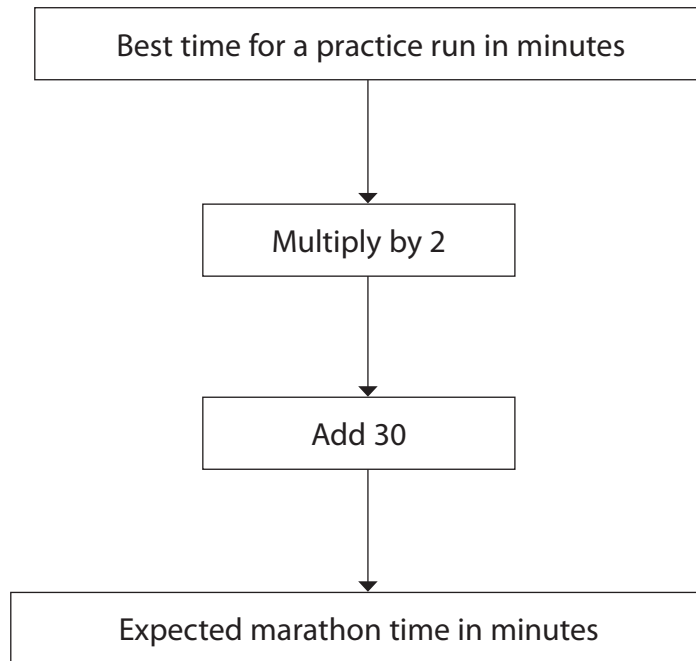
Dominic wants to display the times on a graph.

- (b) Draw a graph for Dominic. (3)





Dominic wants to run the Marathon in less than 240 minutes.  
He finds this method to work out his expected marathon time.



Dominic's best time for a practice run was 98 minutes.

(c) Is Dominic's expected marathon time less than 240 minutes? (3)

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



**(Total for Question 2 is 7 marks)**



**3** Dominic completes the marathon in 3 hours 49 minutes.  
The marathon is 26 miles.

Dominic has to collect money from his sponsors.

- Friends give him a total of £24.35 per mile.
- His father sponsors him £50 for completing the marathon.
- For every minute his time is under 4 hours, his sister gives him £1.

His company makes up his total to £1000.

How much does Dominic's company give him?

(4)

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



**(Total for Question 3 is 4 marks)**



**SECTION B: A holiday in France**

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

- 4** A group of five friends is going on holiday to France.  
They want to rent a villa for two weeks.

Linda finds this information about three villas.

**Villa Adele**

£1200 per week

Cleaning:  
£110 extra per week

**Villa Bastien**

£300 per person  
per week

Cleaning:  
No charge

**Villa Charlotte**

£2600 for two weeks

Cleaning:  
£100 extra

The 5 friends have a budget of £550 per person for renting a villa.

Which of these villas are within their budget?

(5)

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



Large empty box for writing the answer.





A large empty rectangular box for writing answers.

**(Total for Question 4 is 5 marks)**



- 5 Linda is going to drive the group to the villa.  
Part of the journey is from Calais to Paris.

They leave Calais at 9.30 am.

They want to arrive in Paris by 2 pm.

The distance from Calais to Paris is 180 miles.

Linda thinks she will drive 45 miles in each hour.

(a) Will the group arrive in Paris by 2 pm?

(3)

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



Linda needs to put petrol in the tank.

The tank is  $\frac{1}{4}$  full.

Linda knows that a full tank is 80 litres.

(b) How much more petrol does Linda need for a full tank?

(3)

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



A large empty rectangular box for writing the solution to the problem.

**(Total for Question 5 is 6 marks)**



- 6 The group visits a country park.  
They pay 37.25 euros for a group ticket.

Linda pays with a 50 euro note.

(a) How much change should Linda get?

(1)

Write your answer in the box below.

The table gives the start times and the time needed for some activities at the country park.

Activity	Start times	Time needed (mins)
Steam train	12.15 pm   1.45 pm   4 pm	25
House tour	1 pm   2 pm   4 pm	45
Cheese tasting	1.40 pm   3 pm   4.30 pm	40
Boat ride	12.45 pm   2.15 pm   3.45 pm	35

The group wants to do all four of the activities.

They arrive at the country park at 12.20 pm.

They need to leave the country park by 4.30 pm.

They want a time plan showing the four activities and the times they will do them.

(b) Make a time plan for their visit to the country park.

(4)



Use the box below to show your time plan.



**(Total for Question 6 is 5 marks)**



**SECTION C: Landscape gardening**

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

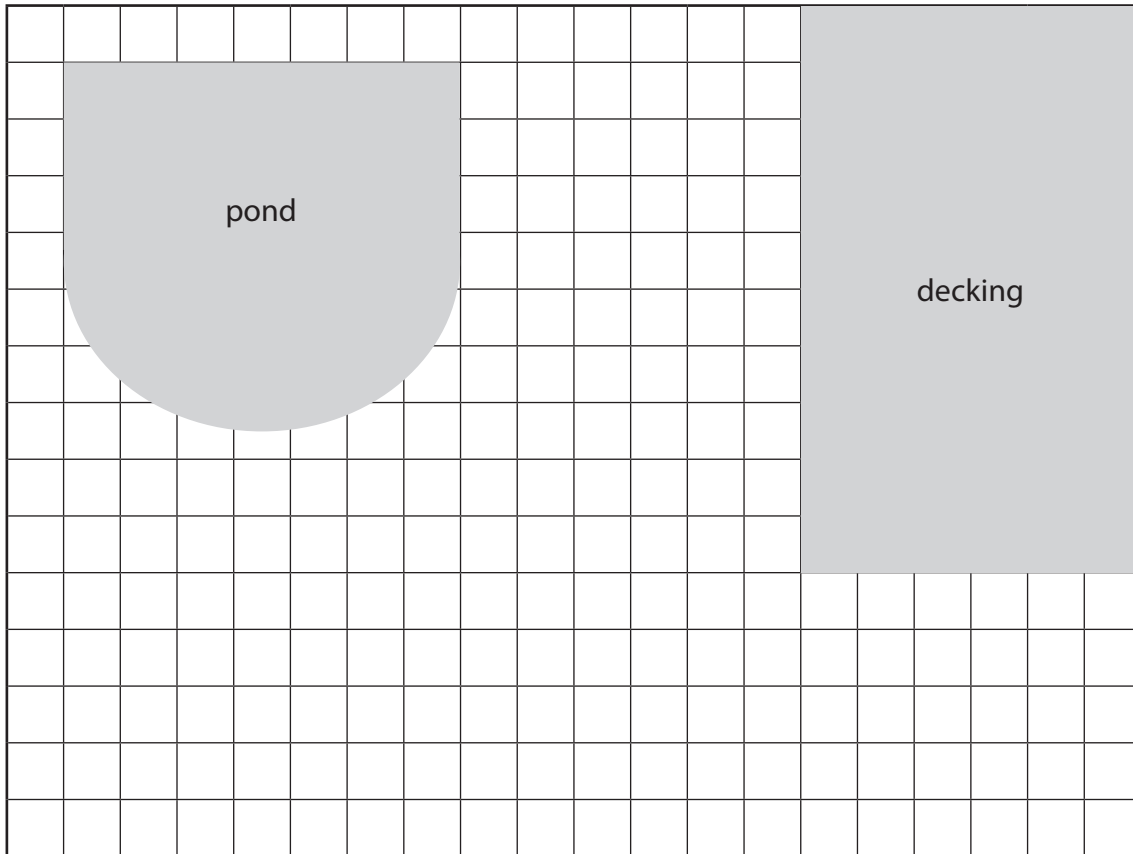
- 7 Sasha is a landscape gardener.  
She draws a plan of a new garden on a grid.  
Sasha has to put a flower bed in the garden.

The flower bed must be

- a rectangle
- 3 m by 2 m
- at least 1 m away from the pond and the decking.

Draw the flower bed on the grid.

(2)



Key: 1 square on the grid is 50 cm by 50 cm in the garden

**(Total for Question 7 is 2 marks)**



8 Sasha has to build a patio using paving stones.

She uses 1 red paving stone for every 4 cream paving stones.  
Sasha uses 100 paving stones in total.

(a) How many red paving stones and how many cream paving stones does Sasha need? (3)

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



A large empty rectangular box provided for the student to show their working out.



Sasha has to put fencing around a rectangular pond.

The pond is 6 m by 15 m.

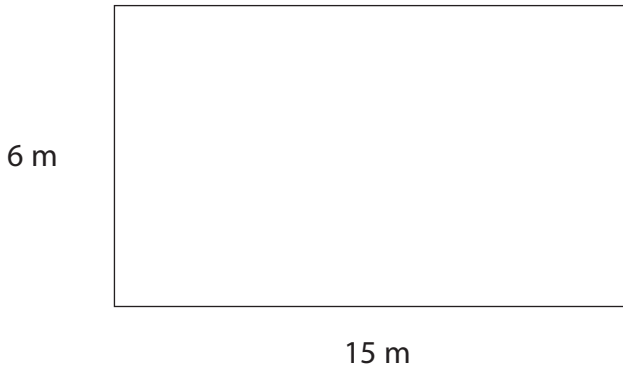


Diagram **NOT**  
accurately drawn

Sasha has 40 m of fencing.

(b) Does Sasha have enough fencing for the pond?

(2)

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



A large, empty rectangular box intended for the student to show their work.





Sasha needs sand to build a terrace.  
The area of the terrace is  $18 \text{ m}^2$

Sasha needs 75 kg of sand for every  $1 \text{ m}^2$  of terrace.  
The sand costs £2 for a 25 kg bag.

(c) Work out the cost of the sand for the terrace.

(4)

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



A large empty rectangular box for writing the solution to the problem.

(Total for Question 8 is 9 marks)



9 Sasha needs to buy 6 bags of weed killer.

She sees these offers in two different stores.

**Star Gardens**

Weed killer

£10 per bag

Buy one bag,  
get one extra half price!

**Golden Gardens**

Weed killer

£12.50 per bag

3 bags for the price of 2

Sasha wants to pay the cheapest price for the 6 bags of weed killer.

Which store should Sasha buy the weed killer from?

(5)

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



A large empty rectangular box for writing the answer and showing the calculation.



[Empty rectangular box for answer]

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**(Total for Question 9 is 5 marks)**

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**TOTAL FOR PAPER IS 48 MARKS**



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