## Write your name here



## Mathematics

Level 1


7-11 October 2013
Time: 1 hour 30 minutes
Paper Reference
FSM01/01

You must have:
Total Marks
Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm , protractor, compasses.

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: $\qquad$

## 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.



## SECTION A: Summer fair

## Answer all questions in this section.

Write your answers in the spaces provided.
1 Raj organises a summer fair to raise money for charity.
Here are the amounts the summer fairs raised in the last five years.

| Year | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Amount | $£ 1250$ | $£ 1570$ | $£ 1760$ | $£ 2200$ | $£ 2450$ |

Raj thinks the figures show that the fair will make more money in 2013 than in 2012
(a) Is Raj correct?

Give a reason for your answer.

Write your answer in the box below.

Raj wants to show the amounts the summer fairs raised in the last five years.
He wants to display these figures on a graph or chart at the entrance to the fair.
(b) Draw a graph or chart for Raj.


2 Kate is going to make cupcakes to sell at the fair.
She has this recipe for 12 cupcakes.

Kate needs to make 360 cupcakes.

| Cupcakes |  |
| :--- | :--- |
| Makes 12 |  |
| 180 g | butter |
| 180 g | sugar |
| 180 g | flour |
| 4 teaspoons milk |  |
| 2 eggs |  |
| 1 teaspoon baking powder |  |

(a) What weight of flour does Kate need for 360 cupcakes?

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

$\square$

There are going to be tours of a fire engine for children at the fair.
The tours of the fire engine will be from 12 noon to 4 pm .
Each tour takes 5 minutes.
Raj thinks there is enough time for 45 tours.
(b) Is Raj correct?

Show why you think this.

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

3 There is a gift stall at the fair.

## Gift stall price list

Cupcakes $£ 6.50$ for 12
Teddy bear $£ 4.75$
Popcorn 2 bags for $£ 2.80$
Plant $£ 4.60$
Scented candles £2.25

Jake buys 2 teddy bears, 6 bags of popcorn and a plant.
He pays with two $£ 20$ notes.

How much change should Jake get?
Show how you have checked your answer.

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

$\square$

Show your check in the box below.


## SECTION B: Salon treatments

## Answer all questions in this section.

Write your answers in the spaces provided.
4 Jan owns a hair and beauty salon.
Here are the appointments she needs to book on Saturday.

| Client <br> name | Treatment | Time when client <br> can attend | Time needed <br> for treatment |
| :---: | :---: | :---: | :---: |
| Mike | facial | afternoon | 1 hour |
| Pat | pedicure | 11 am until 1 pm | 1 hour |
| Nisha | gel nails | until 4 pm | $11 / 2$ hours |
| Ahmed | back wax | 12.30 pm until 2 pm | 30 minutes |
| Claire | spray tan | morning | 30 minutes |

Jan wants to

- start work at 10 am
- finish work by 6 pm
- have a meal break of at least 30 minutes.

Jan must leave a gap of at least 15 minutes after each appointment to get ready for the next client.

Jan needs a time plan for Saturday.
It must show the start time and the finish time for each appointment.

Make a time plan for Jan.

Write your time plan in the box below.

5 Jan needs to prepare a mixture for some highlights.
She mixes 1 part of tint to 3 parts of developing fluid.
Jan wants to make 80 ml of the mixture.
(a) How much tint does Jan need?

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

Ric has his highlights done on May 8th.
He wants to have them done again in 6 to 7 weeks time.
He can visit the salon on a Wednesday or a Friday.
(b) When should Ric have his next highlights appointment?

Circle a possible date on the calendar.

| May |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |  |  |


| June |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
|  |  |  |  |  | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

Jan does spray tan treatments at the salon.
Each treatment uses 200 ml of fluid.
Jan has 5 litres of fluid.
Jan thinks 5 litres will be enough fluid for 30 spray tan treatments.

(c) Is Jan correct?

Show why you think this.

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

Leanne wants a luxury facial at the salon.
The luxury facial is on special offer.

(d) How much money does Leanne save with the special offer?

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


6 Jan thinks she might change her opening times.
She wants to know what times her clients would like to visit.
She needs a data collection sheet.
She wants to record whether men or women prefer to visit the salon in the

- morning
- afternoon
- or evening.

Design a data collection sheet for Jan.

Use the box below to show your data collection sheet.

## SECTION C: The new baby's bedroom

Answer all questions in this section.
Write your answers in the spaces provided.
7 Martin and Sarah are expecting their first baby.
They are going to get a room ready for the baby.
They see a cot bed they like in 3 different stores.
Each store has a different offer for this cot bed.


## Cotbedsonline.com

Deposit: $£ 40$
and
52 weekly payments of $£ 3$

## Nursery World

No deposit
$£ 9$ each month for 2 years

Martin and Sarah want to pay as little as possible.
(a) Which store has the cheapest total cost for the cot bed?

Use the box below to show clearly how you get your answer.
${ }^{6+c}$

Martin is going to put the cot bed and a play mat in the baby's room.
The cot bed

- needs a rectangular floor space 150 cm by 75 cm
- must be at least 25 cm from the window
- must be at least 100 cm from the radiator.

The play mat

- needs a square floor space 100 cm by 100 cm
- must not touch the radiator.

Martin draws a plan of the floor on a grid.
(b) Draw the cot bed and the play mat on the plan.


Key: 1 square on the grid is 25 cm by 25 cm on the floor

8 Martin and Sarah want to have the baby's room painted.
They ask Dean for a quote.
Dean uses this rule to work out his charges.
number of hours $\times 20$ then add the cost of the paint

Dean thinks

- it will take 8 hours
- the paint will cost $£ 75$

Martin and Sarah can afford to spend up to $£ 200$ for painting the room.
(a) Can Martin and Sarah afford Dean's charges?

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

They want to buy a new carpet for the room.
The floor of the room is a rectangle 3.5 m by 3 m .


The carpet they like is 4 m wide.
The shop cuts the length they need from the roll of carpet.
The carpet costs $£ 12.95$ per square metre.
Martin and Sarah pay for all the carpet the shop cuts from the roll.

(b) What is the total cost Martin and Sarah pay for the carpet?

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

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