Write your name here

Surname

Other names

Edexcel
Functional Skills

Centre Number

Candidate Number

Mathematics

Level 1

18–22 March 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 ▶

PEARSON

SECTION A: Discovery centre

Answer all questions in this section.

Write your answers in the spaces provided.

1   Jo plans a day trip to a discovery centre for some children.

She works out how many adults she needs to look after the children.
Jo needs 1 adult for every 6 children.

There are 30 children going on the trip.

(a) How many adults should go on the trip?

(2)

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

$$30 \div 6 = 5$$

Jo works out how much to charge each child for the trip.

The cost to hire the coach for the day is £375
The tickets to the discovery centre cost £4.30 for each child.
The adults go in free.

There are 30 children going on the trip.
Jo is going to charge £17 for each child.

(b) Is this enough to pay for the coach hire and the tickets?

(3)

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

① How much is going to cost

② How much will ju get in

⑧ Write the answer.

ⅰ   375 + 30 × 4.30

    375 +   ~~135~~ 129

    = 504.

② 17 × 30 = 510

So Yes she has enough.

2   Jo makes notes about what they are going to do at the discovery centre.

- ✓Arrive 11 am ✓
- Leave 4 pm ✓
- ✓Show 1 pm – 1.30 pm
- ✓Lunch (30 minutes)
- ✓Hands-on fun (1 hour 30 minutes)
- ✓Nature trail (1 hour 30 minutes)
- ✓Adventure park (1 hour)

Jo needs a time plan for the day.
It must show the start time and the finish time for each activity and the time for lunch.

(a) Make a time plan for the day.
     Remember to check your time plan.   (3)

Write your time plan in the box below.

11   Arrive

11 – 1230   Hands on fun.

12·30 – 1   Lunch
1 – 1.30   Show
1.30 – 3   Nature Trail

3 – 4   Adventure Park.

4pm   Leave

① Time chart so
   show the time
   down the side

② Put in the fixed times
   first

③ Then put in the other)

underlined first

4

P 4 2 4 4 8 A 0 4 2 0

Jo wants to know how hot it is likely to be on the day of the trip.

She finds the maximum temperature on the day of the trip for each of the last 10 years.

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Maximum temperature (°C)	19	21	23	17	24	25	18	23	22	25

Jo thinks it is likely to be more than 20 °C on the day of the trip.

(b) Is Jo correct?
Explain why you think this.

(1)

Write your answer in the box below.

$\frac{7}{10}$ days are more than 20° so it is likely

Jo needs to record information about the children.
She wants to put information for 6 children on one sheet.

For each child she needs to record
- the child's name
- a contact phone number
- any medical information.

(c) Design a data collection sheet for 6 children.

(3)

Use the box below for your data collection sheet.

	Name	Phone Number	Infomail
Child 1			
Child 2			
Child 3			
Child 4			
Child 5			
Child 6			

(Total for Question 2 is 7 marks)

3 Glyn and Hakim go on the trip.
They see this sign in the gift shop.

> **Jumping Jacks**
>
> **£2.90 each**
>
> **Buy one get 2nd half price**

Glyn and Hakim each have £2.50 to spend.
Glyn says

> If we put our money together we can
> afford to buy 2 Jumping Jacks.

Is Glyn correct?
Show why you think this.   (4)

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

① Work how much money they need to spend
② Work out how much money they've got
③ Compare + answer

① $2.90 \div 2 = £1.45$

$$2.90$$
$$1.45 +$$
$$\overline{4.33}$$

② $2.50 \times 2 = £5$

③ So Glyn is correct they have £5 and it will only cost £4.35

(Total for Question 3 is 4 marks)
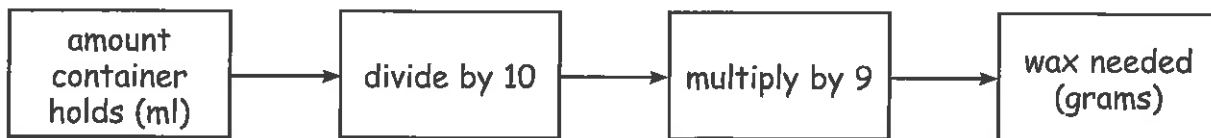
Turn over ▶

SECTION B: Making candles

Answer all questions in this section.

Write your answers in the spaces provided.

4 Lena makes candles in containers.
   She knows a rule to work out how much wax to use for each candle.

| amount container holds (ml) | → | divide by 10 | → | multiply by 9 | → | wax needed (grams) |

Lena has a container that holds 200 ml.

(a) How many grams of wax should Lena use in this container?

(2)

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

$200 \div 10 \times 9 = 180g$

Lena has an order to make 25 candles.

She uses 15 cm of candle wick to make each candle.

Lena has 3 metres of candle wick.

(b) Does Lena have enough candle wick for 25 candles?
    Show a check for your answer.

(4)

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

① Work out how much she needs

② Work much she's got (check units)

③ Compare + write answer

① $25 \times 15 = 375$ cm .

② Has $3m = 300$ cm

③ So no – she does not have enough
She needs ~~375~~ cm but only has 300 cm .

(Total for Question 4 is 6 marks)

5 Lena wants to choose a new container for candles.
The table shows information about some containers.

Type of container	Height (mm)	Width (mm)
A	75	70
B	70	80
C	90	80
D	95	60
E	80	85
F	50	65

Lena wants a container with a
height less than 85 mm and a
width 75 mm or more.

(a) Choose a suitable container for Lena.

(1)

Write your answer in the box below.

Either B or C.

Lena also makes scented candles.

The table below shows information about bottles of scents.

Scent name	Small bottle (50 ml)	Large bottle (100 ml)
Vanilla	£8	£14
Lemon	£7	£12
Ginger	£6	£11

Lena needs to buy 300 ml of vanilla scent.
She also needs to buy some lemon scent and some ginger scent.
She wants to buy as much of the lemon and the ginger as she can afford.

Lena has a budget of £75 to spend on scents.

(b) How many of each bottle of scent should Lena buy?
What is the total cost?

(5)

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

① 300 ml of Vanilla costs
   3 × £14 = £42

② So she will have £30 left to spen
   on ginge

③ 100 ml ginger = £12
   + 100 ml Lemon = £11
                    _____
                     £23

   So has £7 left
   either buy 50 ml of lemon £7 or 50ml ginger £6.

   So she should buy

        3 ~~bott~~

   ~~30~~ 3 × 100 ml of Vanilla
           1 × 100 ml of Ginm
           1 × 100 ml of Lemon
           1 × 50ml of lemon
                 _____

6 Lena wants to expand her business.
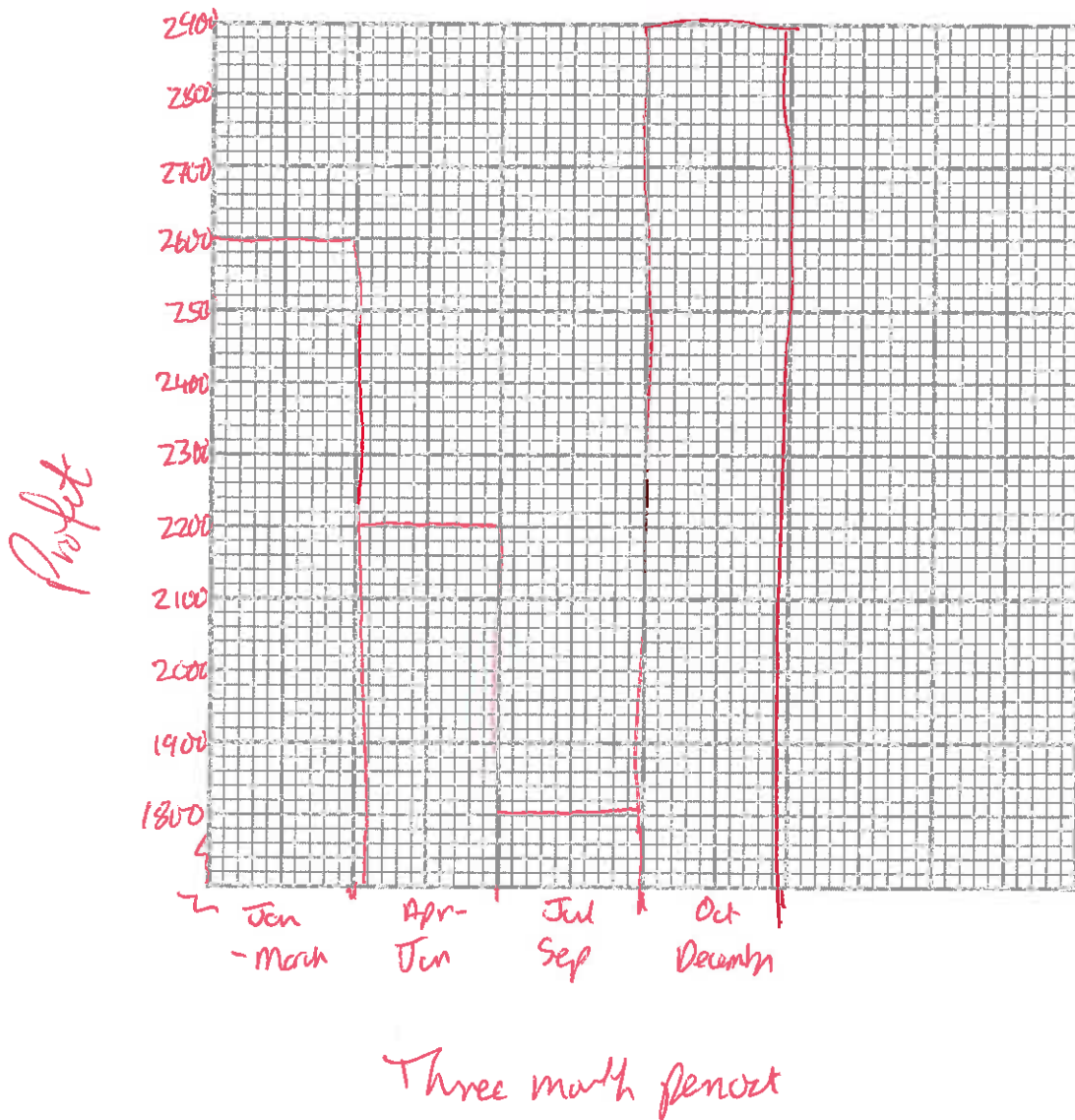
The table shows her profits in each three month period of last year.

Three month period	Jan – Mar	Apr – Jun	Jul – Sep	Oct – Dec
Profit	£2600	£2200	£1800	£2900

Lena wants a graph or chart to display this information for a meeting.

(a) Make a graph or chart for Lena.

(3)

P 4 2 4 4 8 A 0 1 2 2 0

Lena wants to make a comment about her profits for the meeting.

(b) Write a comment about the profits for Lena.

(1)

Write your comment in the box below.

The profits fell for the first three periods
but then went up in Oct – December.

(Total for Question 6 is 4 marks)

7   Tom is a football coach.
    He is going to organise a football tournament.

    Here are the profits from the last 5 tournaments.

    £360   £520   £465   £410   £420

    Tom says
        'The mean average profit from the last 5 tournaments is £435'

    (a) Has Tom worked out the mean average profit correctly?

    (3)

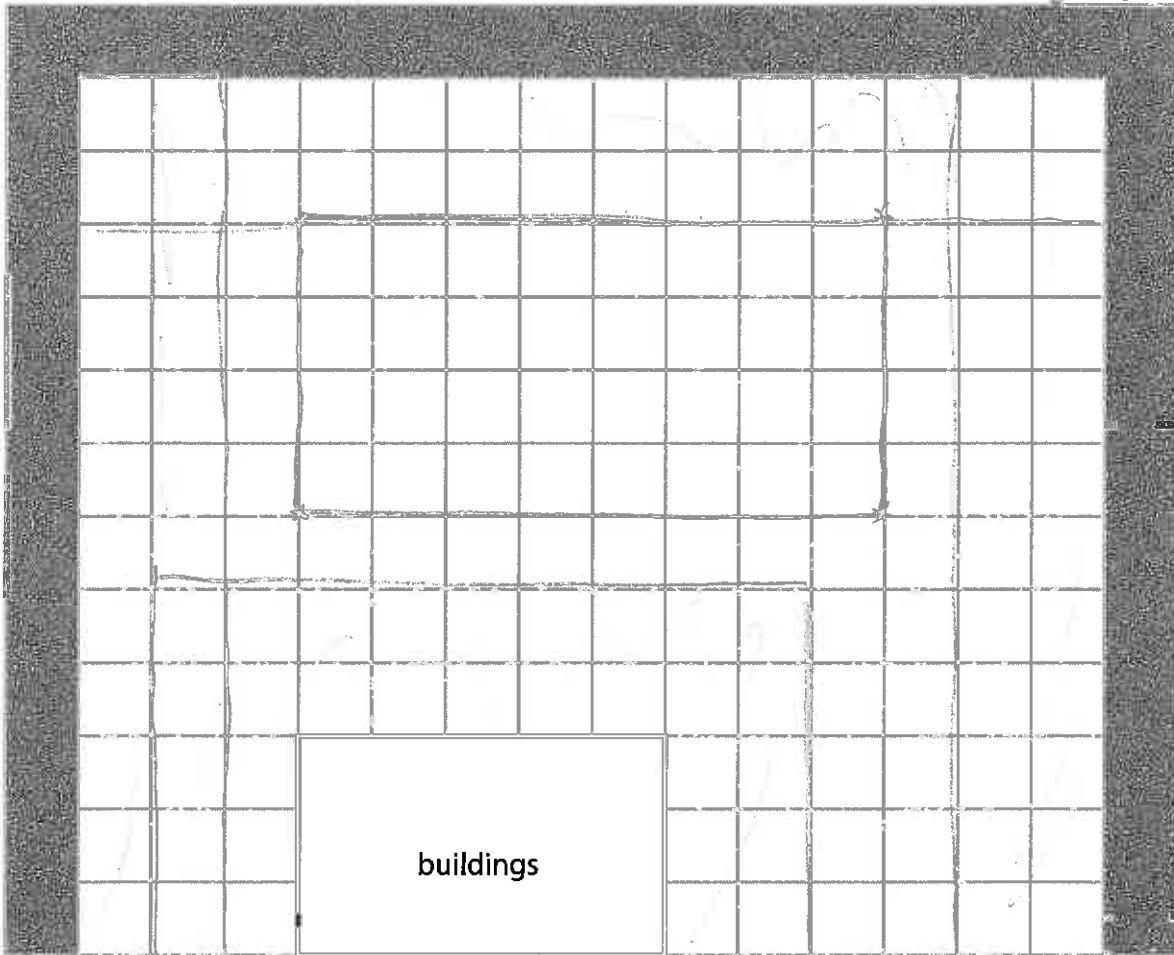   Use the box below to show clearly how you get your answer.

$$\frac{360 + 520 + 465 + 410 + 420}{5}$$

$$= \frac{2175}{5} = £435$$

Yes Tom Has worked out the mean average correctly.

The tournament is going to be played on the village green.

Tom has to work out where to put the football pitch.
He makes a plan of the village green.

Key: 1 square on the plan is 5 m by 5 m on the village green.

hedges

The space for the football pitch needs to be
- a rectangle 40 m by 20 m
- at least 10 m from the hedges 2
- at least 10 m from the buildings. 2

(b) Draw the football pitch on the plan.
   Check that you have used the key correctly.

(3)

(Total for Question 7 is 6 marks)

8 Tom wants to work out what time the tournament is going to finish.

He knows

- the tournament starts at 10.30 am
- there will be a total of 6 games
- a new game starts every 50 minutes
- he needs 15 minutes for the results at the end.

Tom thinks that the tournament will finish before 4 pm.

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

(3)

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

6×50 minutes $= 300$ minutes

$= 300 \div 60 = 5$ h

10.30 am   plus 5 hours

is 1530

Plus 15 minutes for result

1545

So yes - Tom is correct The
Tournament finish at 1545 which is
before 4pm (1600).

Tom has to make a list of the games the teams are going to play.

The 4 teams in the tournament are

Aces
Dragons
Griffins
Rovers

Each team plays one game against each other team.

(b) Make a list of the games.

(3)

Write your list in the box below.

A v D

e v A

G v D

R v A

R v D

R v e.

A D e R

A x

D 1 x

e 2 3 x

R 4 5 6 x

(Total for Question 8 is 6 marks)

9 On the day of the tournament Tom fills in the results table below.

Team name	Played	Won	Drawn	Lost	Goals for	Goals against	Goal difference	Points
Aces	3	1	0	2	5	4	1	3
Dragons	3	2	0	1	6	4	2	6
Griffins	3	1	0	2	9	9	0	3
Rovers	3	2	0	1	4	7	−3	6

Tom has to work out the teams in 1st, 2nd, 3rd and 4th places.

He knows that
- the team with the most points wins
- if two teams have the same number of points, the team with the higher goal difference is placed above.

(a) Complete the team places table below.

(2)

Place	Team name
1st	Dragons
2nd	Rovers
3rd	Aces
4th	Griffins

The company selling the refreshments gives Tom 25% of its profit.

The company makes £180 profit.

(b) How much money does the company give Tom?

(2)

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

$$\frac{25}{100} \times £180 = £36$$

(Total for Question 9 is 4 marks)

TOTAL FOR PAPER IS 48 MARKS

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