

Write your name here	
Surname	Other names
Pearson Edexcel Functional Skills	Centre Number
	Candidate Number
<h1>Mathematics</h1>	
Level 1	
	
12 – 16 June 2017	Paper Reference
Time: 1 hour 30 minutes	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 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 to how much time to spend on each question.*
- **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.**
- **This sign shows where marks will be awarded for showing your check.**



Advice

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

Turn over ▶

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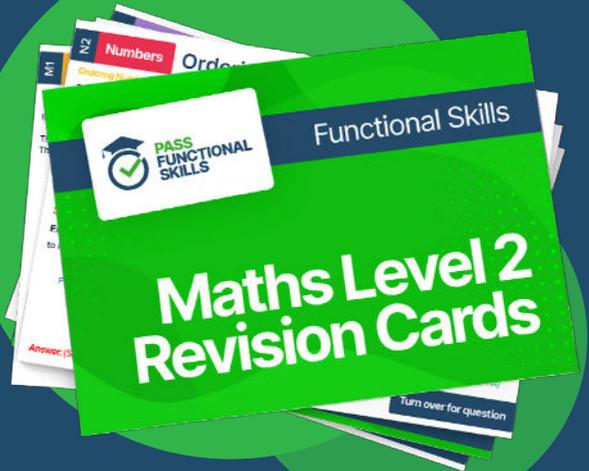
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SECTION A: Trip to Ireland**Answer all questions in this section.****Write your answers in the spaces provided.**

- 1 Clive is planning a holiday to Ireland.
He will take a flight from Manchester to Cork.

The table shows information about the flights from Manchester to Cork.

date	departure time	arrival time	ticket price
13 Jul	09:05	10:40	£104.99
	16:55	18:25	£116.99
	20:55	22:25	£79.99
14 Jul	09:05	10:40	£124.99
	20:55	22:25	£89.99
15 Jul	09:05	10:40	£85.99
	16:55	18:25	£129.99
	20:55	22:25	£114.99
16 Jul	09:05	10:40	£104.99
	20:55	22:25	£79.99

Clive wants the flight to have a departure time after 6 pm and to be on 14 July or 15 July.

He wants to pay the least amount possible for his ticket to Cork.

- (a) Which flight should Clive take?
Write the date and the departure time of this flight.

(2)

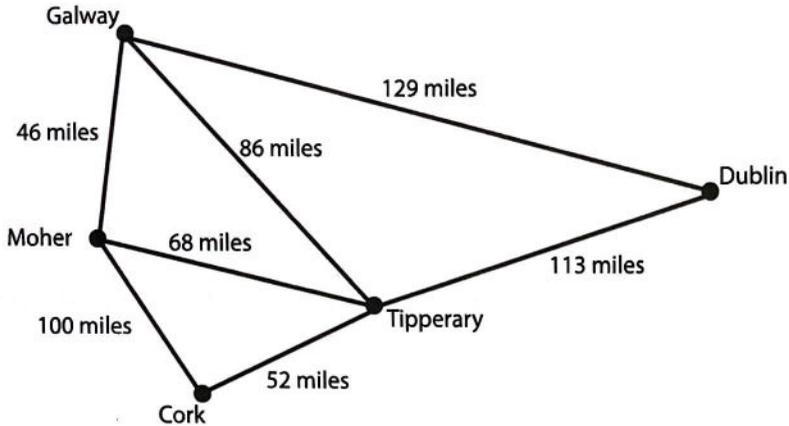
Use the box below to write your answer.

20:55 on 14 July -

Clive is planning a trip from Cork to Dublin.
He will stop in Tipperary, Galway and Moher on his way to Dublin.

Clive does not mind in which order he stops at each of the three places.

He draws this sketch of the places and the distances between them.



Clive wants to plan a route for his trip.

- (b) Plan the route for Clive.
What is the total distance of this route?

(3)

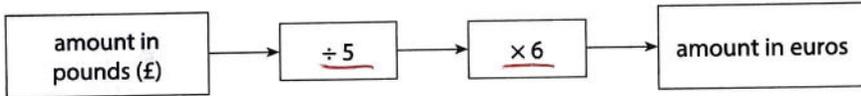
Use the box below to show clearly how you get your answer.

$$\text{Cork} \xrightarrow{52} \text{Tipperary} \xrightarrow{68} \text{Moher} \xrightarrow{46} \text{Galway} \xrightarrow{129} \text{Dublin}$$

$$52 + 68 + 46 + 129 = 295 \text{ miles.}$$

- 2 One litre of petrol in the UK costs £1.15
One litre of petrol in Ireland costs 1.32 euros.

Clive knows this rule to convert pounds into euros.



He thinks that one litre of petrol in the UK costs more than one litre of petrol in Ireland.

Is Clive correct?
Show why you think this.

(3)

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

$$\begin{aligned} \pounds 1.15 \div 5 &= \del{0.23} 0.23 \\ 0.23 \times 6 &= \pounds 1.38 > \pounds 1.32 \\ &\text{He is correct.} \end{aligned}$$

(Total for Question 2 is 3 marks)

3 Clive plans to walk with a friend along the Cliffs of Moher.

Clive wants to carry a total of at least 3 litres of liquid to drink on the walk.

He has

2 large bottles of water (750 ml each)

2 small bottles of water (500 ml each)

2 cans of soft drink (330 ml each).

(a) Does Clive have a total of at least 3 litres of liquid?

(4)

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

$$2 \times 750 + 2 \times 500 + 2 \times 330 =$$

$$1500 + 1000 + 660 =$$

$$3160 \text{ ml} =$$

$$3.16 \text{ litres} > 3 \text{ litres.}$$

There is a footpath along the Cliffs of Moher.
The length of the footpath is 24 km.

Clive and his friend walk a distance of 16 km along the footpath.

Clive says

We have walked three quarters
of the length of the footpath.

(b) Is three quarters of the length of the footpath 16 km?
Show a check of your working.

(4)

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

$$24 \times \frac{3}{4} = 18 > 16 .$$

Clive is not correct.

Use the box below to show your check.



$$18 \div \frac{3}{4} = 24$$

(Total for Question 3 is 8 marks)

DO NOT WRITE IN THIS AREA

SECTION B: Cycle to work

Answer all questions in this section.

Write your answers in the spaces provided.

4 Teri works for a company.

The managers of the company want to introduce a Cycle To Work scheme.

Teri must design a data summary sheet to show some information about the employees.

The sheet must show

- the department where each employee works
sales (S), finance (F), human resources (HR)
- whether each employee wants to join the scheme (yes or no)
- the total number of employees who want to join the scheme
- the total number of employees who do not want to join the scheme.

Teri has collected this information.

Abi,	HR,	yes
June,	HR,	no
Bob,	S,	yes
Kam,	S,	yes
Des,	F,	no
Shirley,	S,	yes
Mick,	S,	yes
Katie,	F,	no

(a) Design a data summary sheet for Teri.

Fill in the sheet using the information Teri has collected.

(5)

Use the box below to show clearly your completed data summary sheet.

Name	Department			Bin Scheme	
	S	F	HR	Yes	No

Total yes = 5

Total no = 3

DO NOT WRITE IN THIS AREA

Teri is buying an electric bike through the Cycle To Work scheme.

She has to pay

£750 when she gets her bike and
12 monthly instalments of £56.85

(b) How much will Teri pay in total?
Show a check of your working.

(4)

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

$$\begin{aligned}750 + 12 \times 56.85 &= \\750 + 682.20 &= \\£1432.20 &.\end{aligned}$$

Use the box below to show your check.



$$£1432.20 - 750 = £682.20.$$

(Total for Question 4 is 9 marks)

- 5 Teri wants to use her bike to cycle to work.
The journey to work is 18 miles.

Teri thinks it will take 4 minutes to cycle each mile of this journey.

She thinks it will take her one and a quarter hours to cycle the 18 miles to work.

Is Teri correct?

Show why you think this.

(3)

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

$$4 \times 18 = 72 \text{ mins}$$

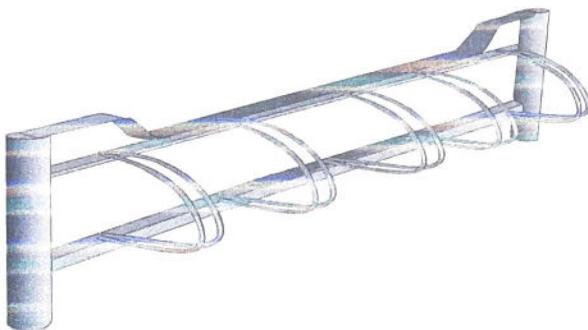
$$1\frac{1}{4} \times 60 = 75 \text{ mins}$$

$$75 \neq 72$$

Teri is not correct.

(Total for Question 5 is 3 marks)

- 6 Teri has a space where employees can park their bikes.
She needs to choose a type of bike rack for this space.



The table shows information about the different bike racks.

bike rack type	maximum number of bikes	length (cm)	width (cm)	fixing
A	3	100	50	ground
B	4	150	50	ground
C	5	200	50	ground
D	5	200	50	wall
E	6	300	50	ground
F	6	300	50	wall
G	7	350	50	wall

Each bike rack needs to

- be for at least 5 bikes
- have a ground fixing.

(a) Choose a type of bike rack for Teri.

(1)

Use the box below to show clearly your answer.

E

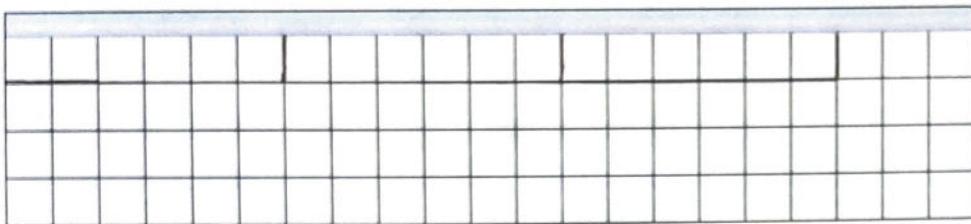
Teri wants to put one row of bike racks along a wall.
She will use only one type of bike rack.
Teri will use the type of bike rack chosen in part (a).

Each bike rack will need a rectangular space of the length and width shown in the table on the previous page.

Bike racks will be joined along their shortest sides.

(b) Draw the bike racks on the scaled grid below for Teri.

(3)



Key 1 square side represents 50 cm

 wall

You may use the box to show any working.

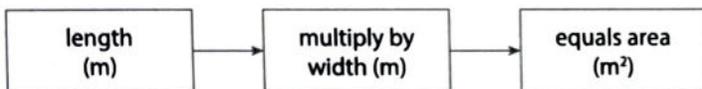
(Total for Question 6 is 4 marks)

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

- 7 Jim is a farmer.
He plans to keep sheep on his land.

The land is rectangular with length 250 m and width 200 m.

He has this rule to find the area of the land.



Jim knows that each sheep needs an area of 800 m^2 of land.
He works out that he can keep 70 sheep on his land.

Is Jim correct?
Show why you think this.

(3)

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

$$250 \times 200 = 50000$$

$$50000 \div 800 = 62.5 < 70$$

Jim is not correct.

(Total for Question 7 is 3 marks)

- 8 Lambs are usually born in the first 4 weeks of April.

Jim records the number of lambs born each week on his farm in April.

week	1	2	3	4
number of lambs born	<u>23</u>	<u>45</u>	<u>33</u>	<u>9</u>

Jim thinks the mean number of lambs born each week in the first 4 weeks of April is 26

- (a) Is Jim correct?
Show why you think this.
Show a check of your working.

(4)

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

$$\frac{23+45+33+9}{4} = \frac{110}{4} = 27.5 > 26$$

Jim is not correct.

Use the box below to show your check.



$$27.5 \times 4 = 110.$$

Visitors come to the farm to see the lambs.

Jim wants to display the information in the table on a bar chart for visitors.

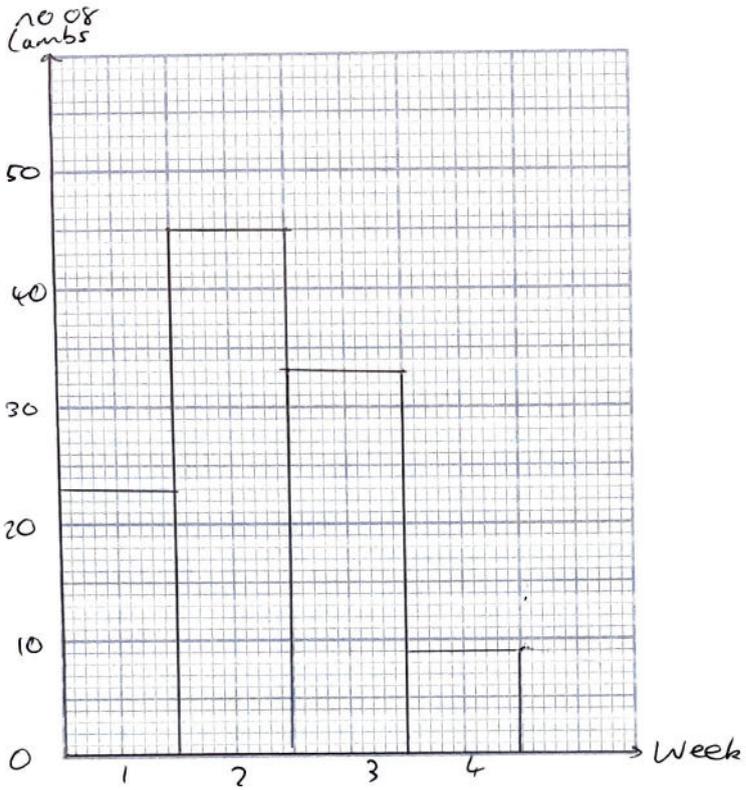
week	1	2	3	4
number of lambs born	23	45	33	9

(b) Draw the bar chart for Jim.

(3)

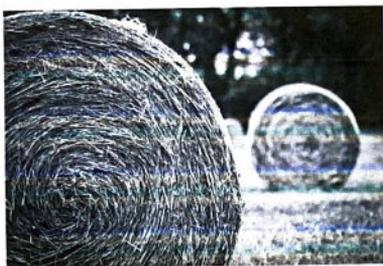
Use the graph paper on the next page to show your bar chart.

DO NOT WRITE IN THIS AREA



(Total for Question 8 is 7 marks)

9 Jim needs to buy bales of hay for the sheep.



Jim sees these two offers.
The bales of hay in both offers are the same size and weight.

Hay Farm	Farming Supplies
bales of hay	15 bales of hay
£6.30 each	<u>normal price £88</u>
For every <u>5 bales you buy,</u> <u>get an extra bale for free</u>	Sale! Pay <u>70% of the normal price</u>

Jim is going to buy 30 bales of hay.
He wants to pay the least amount of money.

Which offer should Jim choose?
How much will Jim pay in total?

(6)

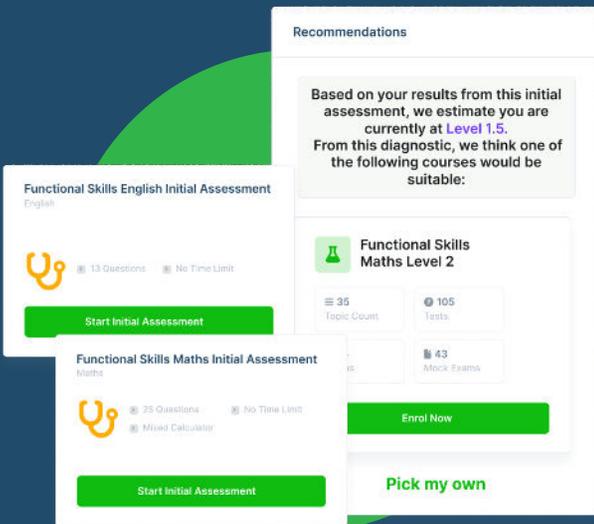
30 is buy 25 get
5 free -
 $£6.30 \times 25 = £157.50$

Need 2 packs of 15
 $£88 \times 2 = £176$
 $£176 \times 0.7 = £123.20$

Farming supplies is cheaper.

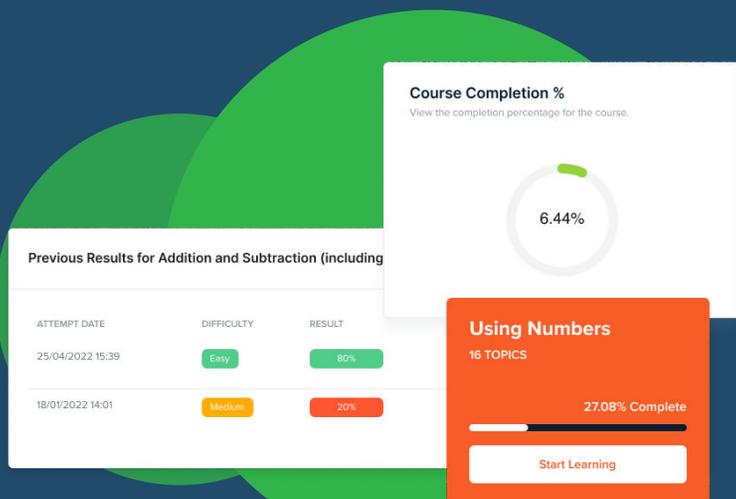
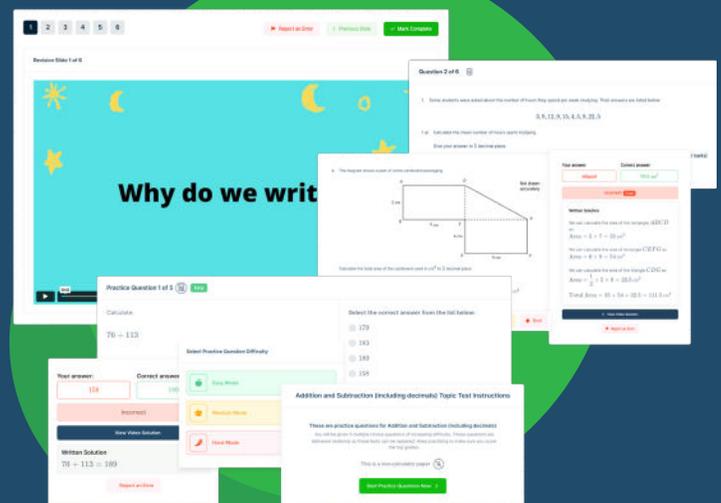


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