




COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 10 (2017)

	Marks	Actual	  
Q1. Proportion – recipes	3		
Q2. Proportion – recipes	5		
Q3. Proportion – recipes	5		
Q4. Proportional reasoning	2		
Q5. Sample space diagrams	7		
Q6. Problem solving involving distance and cost per unit	4		
Q7. Exchange rates	3		
Q8. Exchange rates	4		
Q9. Planning a trip – train timetables	7		
Q10. Planning a trip – reading tables	4		
Q11. Planning a trip	5		
Q12. Best value	3		
Q13. Best value	4		
Q14. Best value	5		
Q15. Best value	4		
Q16. Utility bill	4		

Questions

Q1. Here is a list of ingredients for making 12 cheese scones.

Ingredients for 12 cheese scones
240 g flour
60 g butter
30 g cheese
150 ml milk

Jason is going to make 30 cheese scones.

Work out the amount of each ingredient he needs.

(Total for Question is 3 marks)

Q2. Here is a list of ingredients for making cherry scones.

Makes 8 cherry scones
200 grams flour
60 grams margarine
40 grams sugar
60 grams cherries
160 ml milk

Chen wants to make 20 cherry scones.

(a) Work out how much milk he will need.

.....ml/ **(2)**

Sophie has 80 grams of sugar and 300 grams of flour.

She has plenty of the other ingredients.

(b) What is the greatest number of cherry scones she can make? You must show all your working.

(3)

(Total for Question is 5 marks)

Q3. Here is a list of ingredients for making apple crumble for 2 people.

Apple Crumble for 2 people
10 ounces apples
4 ounces flour
2 ounces sugar
1 ounce butter
1 tablespoon water
1 teaspoon baking powder

1 ounce	=	28 grams
1 tablespoon	=	15 ml
1 teaspoon	=	5 ml

Anne is going to make apple crumble for 5 people.

- (a) Work out how much flour she needs.
Give your answer in grams.

(3)

David is making an apple crumble.
He uses 140 grams of butter.

- (b) Work out how many people he is making apple crumble for.

(2)

(Total for Question is 5 marks)

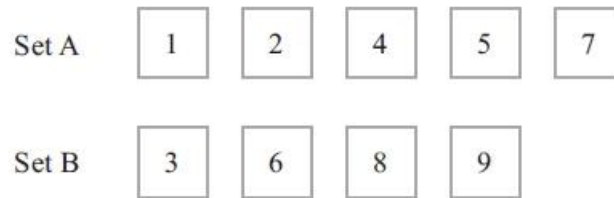
Q4. Lewis has a copper pipe with a length of 150 cm and a mass of 800 grams.

He cuts a piece of the copper pipe with a length of 90 cm.

Work out the mass of this piece of copper pipe.

..... grams
(Total for Question is 2 marks)

Q5. Josh plays a game with two sets of cards.



Josh takes at random one card from each set.
He adds the numbers on the two cards to get the total score.

(a) Complete the table to show all the possible total scores.

		Set A				
		1	2	4	5	7
Set B	3	4	5	7	8	10
	6	7	8	10		
	8					
	9					

(1)

(b) What is the probability that Josh's total score will be greater than 12?

(2)

Josh's year group are raising money for a sponsored skydive.

60 students are each going to play Josh's card game once.
Each student pays 50p to play the game.

Josh pays £1.50 to any player getting a total of 8

(c) Show that Josh can expect to make a profit of £21 from his game.

(4)

(Total for Question is 7 marks)

Q6. Nick has 2 cars. Car A uses petrol. Car B uses diesel.

Petrol costs £1.39 per litre.

Diesel costs £1.47 per litre.

The table below shows the average distance that Nick can drive each car using 1 litre of fuel.

Car A	10.3 miles per litre of petrol
Car B	14.6 miles per litre of diesel

Nick is going on a journey in one of his cars.

The distance Nick is going to drive is 450 miles.

Work out the difference of the total costs of the fuel for the 2 cars for this journey.

£.....

(Total for question = 4 marks)

Q7. Linda is going on holiday to the Czech Republic. She needs to change some money into koruna.

She can only change her money into 100 koruna notes.

Linda only wants to change up to £200 into koruna.

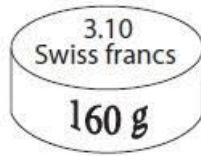
She wants as many 100 koruna notes as possible.

The exchange rate is £1 = 25.82 koruna.

How many 100 koruna notes should she get?

(Total for Question is 3 marks)

Q8. The local supermarket sells boxes of Reblochon cheese.



Each box of Reblochon cheese costs 3.10 Swiss francs.
It weighs 160 g.

In England, a box of Reblochon cheese costs £13.55 per kg.

The exchange rate is £1 = 1.65 Swiss francs.

Work out whether Reblochon cheese is better value for money in Switzerland or in England.

(Total for Question is 4 marks)

Q9. Mr and Mrs Jones are planning a trip to Colwyn for a day. There will be two adults and three children on the trip.

They are going from Crewe.
They must be back in Crewe by 7.30 pm.

They buy the cheapest possible tickets for the day trip.

A child ticket is 30% of the price of an adult ticket.

The tables show part of the train timetable between Crewe and Colwyn.
They also show the price of an adult ticket.

Crewe	0723	0823	0849	0923	0949	1023	1049
Colwyn	0850	0943	1016	1034	1104	1148	1200
Price per adult	£25.20	£25.20	£25.20	£25.20	£25.20	£24.00	£24.00

Colwyn	1527	1646	1737	1832	1853	1925	1951
Crewe	1654	1754	1918	1954	2018	2038	2129
Price per adult	£22.00	£22.00	£22.00	£22.00	£18.50	£18.50	£18.50

The family want to be in Colwyn for as long as possible.

(a) Plan a schedule for the day trip.
You must show the times of both their train journeys.
Write down how long they can spend in Colwyn.

(4)

A child ticket is 30% of the price of an adult ticket.

(b) Calculate the total cost of the train tickets for the Jones family.

£..... (3)

(Total for question = 7 marks)

Q10. Mrs Evans is planning a trip to the zoo. She finds out this information.

July						
M	T	W	T	F	S	S
		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		

Off peak Peak

Ticket Prices		
	Peak	Off peak
Adult	£20.50	£19.50
Child	£15.50	£15.00
Senior citizen	£19	£18

Family Offer	
10% Discount	2 adults and 2 children or 1 adult and 3 children

Mrs Evans will go to the zoo on Friday 17th July.

She will need to buy tickets for 1 adult and 3 children.

Mrs Evans wants to buy the tickets as cheaply as possible.

Work out the total cost of the tickets.

£

(Total for Question is 4 marks)

Q11. Jon and Alice are planning a holiday. They are going to stay at a hotel.
The table shows information about prices at the hotel.

	Price per person per night (£)		Dinner (£)
	Double room	Single room	per person per day
01 Nov – 29 April	59.75	118.00	31.75
30 April – 08 July	74.25	147.00	31.00
09 July – 29 Aug	81.75	161.75	31.00
30 Aug – 31 Oct	74.25	147.00	31.00
Saver Prices 5 nights for the price of 4 nights from 1st May to 4th July. 3 nights for the price of 2 nights in November.			

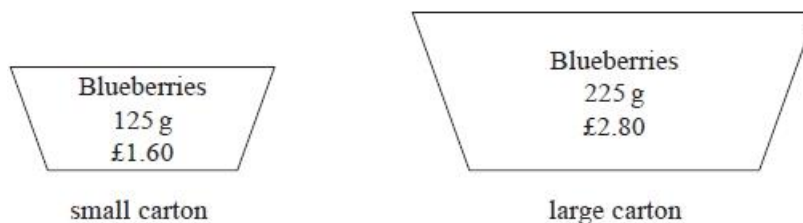
Jon and Alice will stay in a double room.
They will eat dinner at the hotel every day.

They can stay at the hotel for 3 nights in June or 4 nights in November.

Which of these holidays is cheaper?

(Total for Question is 5 marks)

Q12. Blueberries are sold in small cartons and in large cartons.



There are 125 g of blueberries in a small carton. Each small carton costs £1.60

There are 225 g of blueberries in a large carton. Each large carton costs £2.80

Which size of carton is the better value for money?
You must show your working.

(Total for question = 3 marks)

Q13. A shop sells toothpaste in 3 different sizes of tube.

A 70 m/ tube of toothpaste costs £1.79

A 100 m/ tube of toothpaste costs £2.75

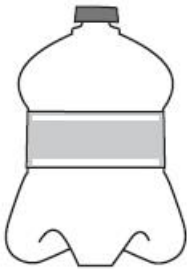

A 150 m/ tube of toothpaste costs £3.99

Which size of tube is the best value for money?

You must show all your working.

(Total for Question is 4 marks)

Q14. A supermarket has two special offers on lemonade.

<p>Bottles of lemonade</p> <p>Special offer</p>  <p>15% off the normal price of each bottle</p>	<p>Cans of lemonade</p> <p>Special offer</p>  <p>Buy 3 cans get 25p off the total cost</p>
---	---

The normal price of a 2.5 litre bottle of lemonade is £1.60

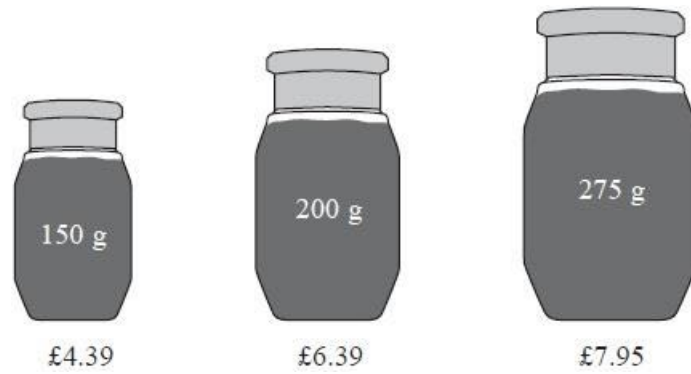
The normal price of a 0.33 litre can of lemonade is 28p.

Jerry is going to buy 4 bottles of the lemonade on special offer or 30 cans of the lemonade on special offer.

Which special offer is the better value for money?

(Total for question = 5 marks)

Q15. A shop sells coffee in 3 different sizes of jar.




- A 150 g jar of coffee costs £4.39
- A 200 g jar of coffee costs £6.39
- A 275 g jar of coffee costs £7.95

Which size of jar is the best value for money?
You must show all your working.

(Total for question = 4 marks)

Q16. Here is part of Jo's electricity bill.

Electricity Bill		May 2012
J. Evans 3 Hillside Ave London		
2012		CP Energy Connecting people Connecting places
Reading 1st Jan	02792 units	
Reading 1st April	03307 units	
Number of units used	515 units	
Cost: 35p per unit		

Work out how much Jo has to pay for the units she has used.

£

(Total for Question is 4 marks)