**Pearson Edexcel
Functional Skills**

Centre Number

Candidate Number

Mathematics

Level 1

11 – 15 January 2016
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 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 as 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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PEARSON

SECTION A: Organising a party

Answer all questions in this section.

Write your answers in the spaces provided.

1 Brenda is organising a party for 60 guests.
She wants to book a room for the party.

Brenda finds this information about rooms at a hotel.

Room	Number of guests	Refreshments	Cost
1	Up to 40 guests	One drink each	£474.95
2	Up to 70 guests	None	£249.95
3	Up to 80 guests	One drink and meal each	£794.95
4	Up to 80 guests	One drink each	£674.95
5	Up to 120 guests	One drink and meal each	£1149.95

20% discount for bookings made for Mondays to Thursdays

Brenda is going to book a room for the party for 60 guests.

She wants the hotel to provide each guest with a drink and a meal.

She wants to spend as little money as possible.

(a) Which room should Brenda book?

(1)

Use the box below to write your answer.
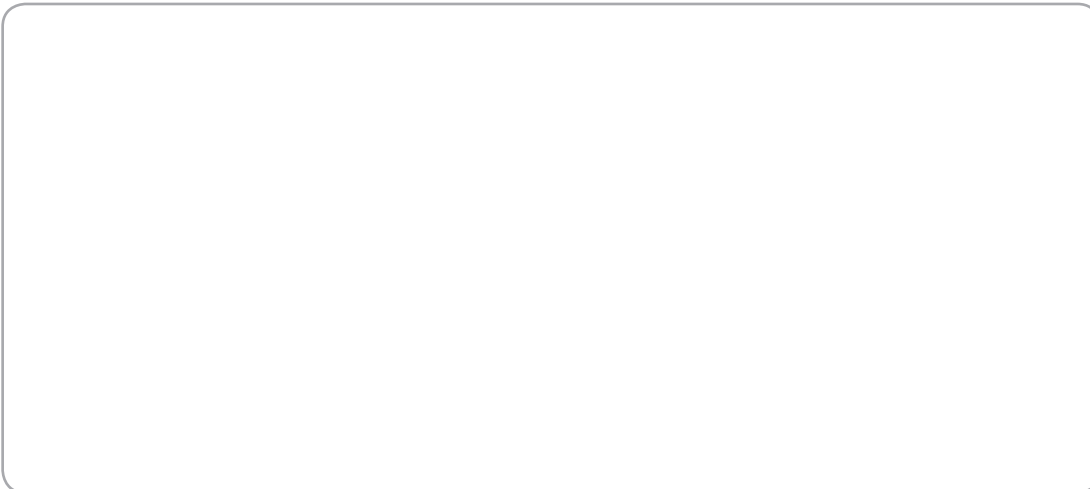
Brenda books the room for a Monday.

(b) Work out how much discount Brenda gets.
Show a check of your working.

(3)

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

Show your check in the box below.

☑

Brenda books the room from 6:30 pm to midnight.

She makes some notes about the party.

- Get room ready ($1\frac{1}{2}$ hours)

- Reception and drinks (45 minutes)

- Eat meal (1 hour)

- One speech (20 minutes)

- Dancing (2 hours)

(c) Has Brenda booked the room for enough time?

(4)

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

(Total for Question 1 is 8 marks)

2 Brenda is going to buy a box of chocolates for each guest at the party.

She sees these two offers.

Sweets4U	Chocolate Direct
Pack of 6 boxes of chocolates	Pack of 4 boxes of chocolates
£21 per pack	£14.50 per pack

Brenda needs to buy 60 boxes of chocolates.

She knows it will be cheaper to buy 60 boxes of chocolates from Sweets4U.

How much cheaper?

(4)

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

(Total for Question 2 is 4 marks)

3 Brenda and Sam are going to stay at the hotel for one night.

It costs a total of £84 to stay at the hotel for one night.

Brenda pays a deposit of £20 towards the total cost.

Brenda says to Sam,

'We will share the total cost equally.'

How much does each person have left to pay?

(3)

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

(Total for Question 3 is 3 marks)

4 There is a raffle at the party.

Brenda sells 200 tickets.

Sam buys 5 tickets.

The first ticket drawn wins the prize.

How likely is it that Sam wins the prize?

(1)

Tick (✓) your answer below.

impossible	unlikely	evens	likely	certain
( )	( )	( )	( )	( )

(Total for Question 4 is 1 mark)

SECTION B: Parachute jumping

Answer all questions in this section.
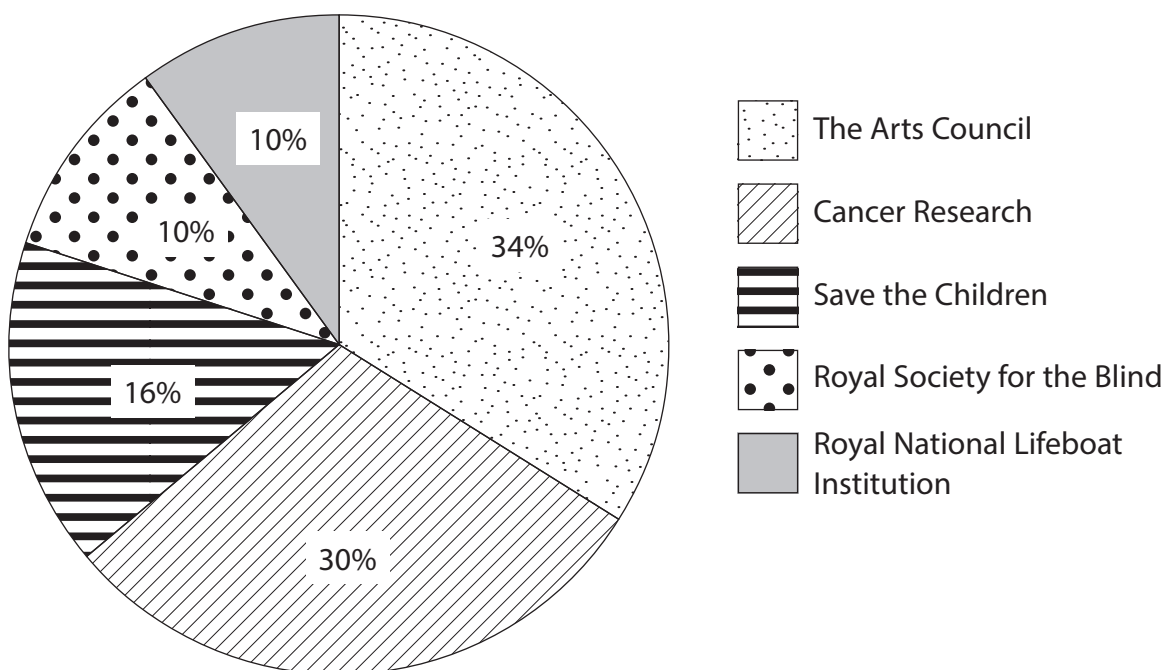
Write your answers in the spaces provided.

5   Tariq owns a company that organises parachute jumps.

Some people donate money to charity when they do a parachute jump.

Tariq writes a report.
He draws this pie chart for the report.

Charities donated to by people who did parachute jumps last year

	The Arts Council
	Cancer Research
	Save the Children
	Royal Society for the Blind
	Royal National Lifeboat Institution

Tariq writes,

'The pie chart shows a third of these people donated money to Cancer Research.'

(a) Is Tariq correct?
Show why you think this.   **(2)**

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

Tariq starts to draw this graph to show the number of people who did a parachute jump each month.
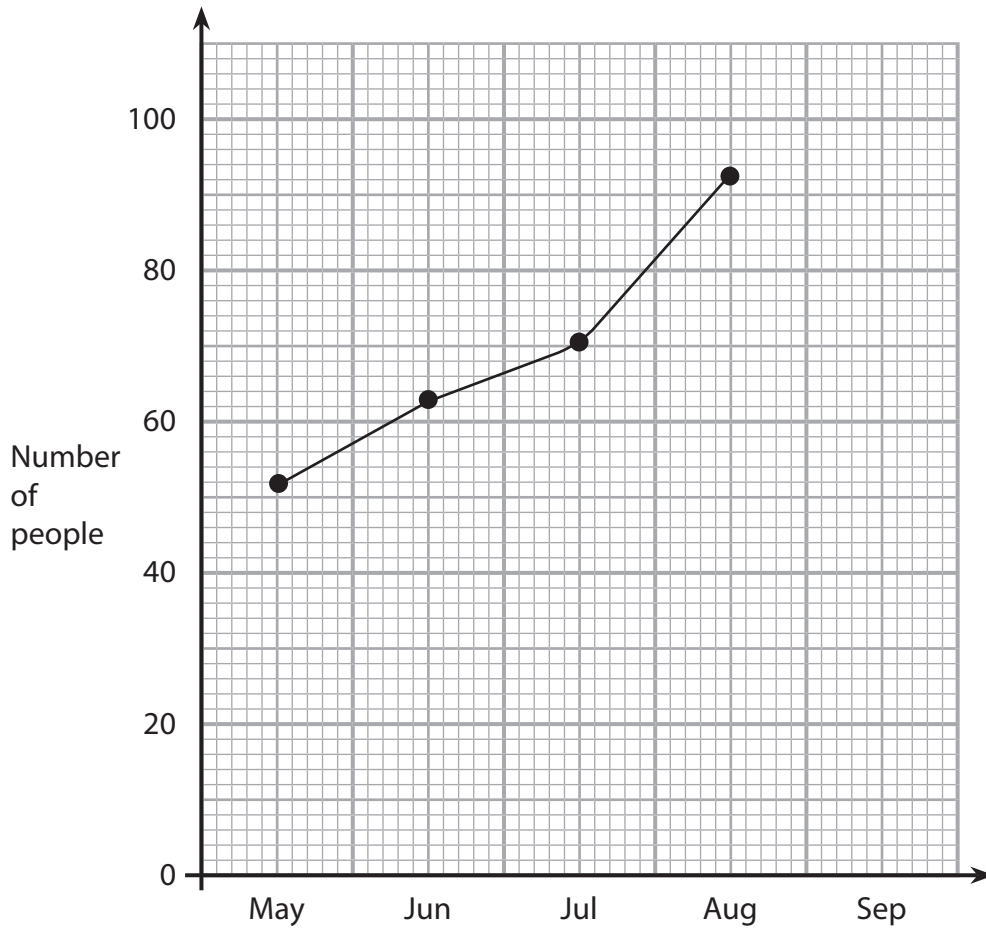
In September, 78 people did a parachute jump.

(b) Show this information on the graph.

(1)

Tariq needs to write a statement about the graph in his report.

(c) Write a statement for Tariq.

(1)

Write your statement in the box below.

(Total for Question 5 is 4 marks)

Turn over ▶

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6 Tariq needs a data collection sheet to record information about people who want to do a parachute jump.

The data collection sheet must show

- name
- weight [less than 60 kg, between 60 kg and 75 kg, more than 75 kg]
- if the jump will be on a weekday or a weekend.

Tariq has this information about four people who want to do a parachute jump.

June	weekday	66 kg
Stefan	weekend	87 kg
Farah	weekday	70 kg
Ali	weekday	90 kg

(a) Design a data collection sheet for Tariq.
Fill in the information about these four people.
Remember to check your answer.

(5)

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Use the box below for your data collection sheet.

Five friends want to do a parachute jump for charity.

They must raise a mean average of at least £420 each before they do the jump.

Here are the amounts each friend has raised.

Name	Ben	Cal	Daz	Ed	Fai
Amount of money raised (£)	509	381	425	390	455

(b) Have the friends raised a mean average of at least £420?
Show a check of your working

(4)

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

Show your check in the box below.

☑

(Total for Question 6 is 9 marks)

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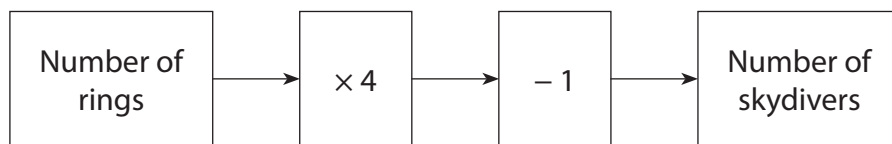**7** Tariq plans a parachute formation jump for charity.

He will ask skydivers to hold the hands or feet of other skydivers to make a pattern in the sky.
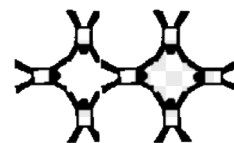
It takes 7 skydivers to make a pattern with 2 rings.

Tariq knows this rule to work out the number of skydivers for 2 rings or more.

| Number of rings | → | × 4 | → | − 1 | → | Number of skydivers |

Tariq wants a formation with 8 rings.

He thinks he needs 33 skydivers.

Is Tariq correct?
Show why you think this. **(3)**

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

(Total for Question 7 is 3 marks)

Turn over ▶

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SECTION C: DIY

Answer all questions in this section.
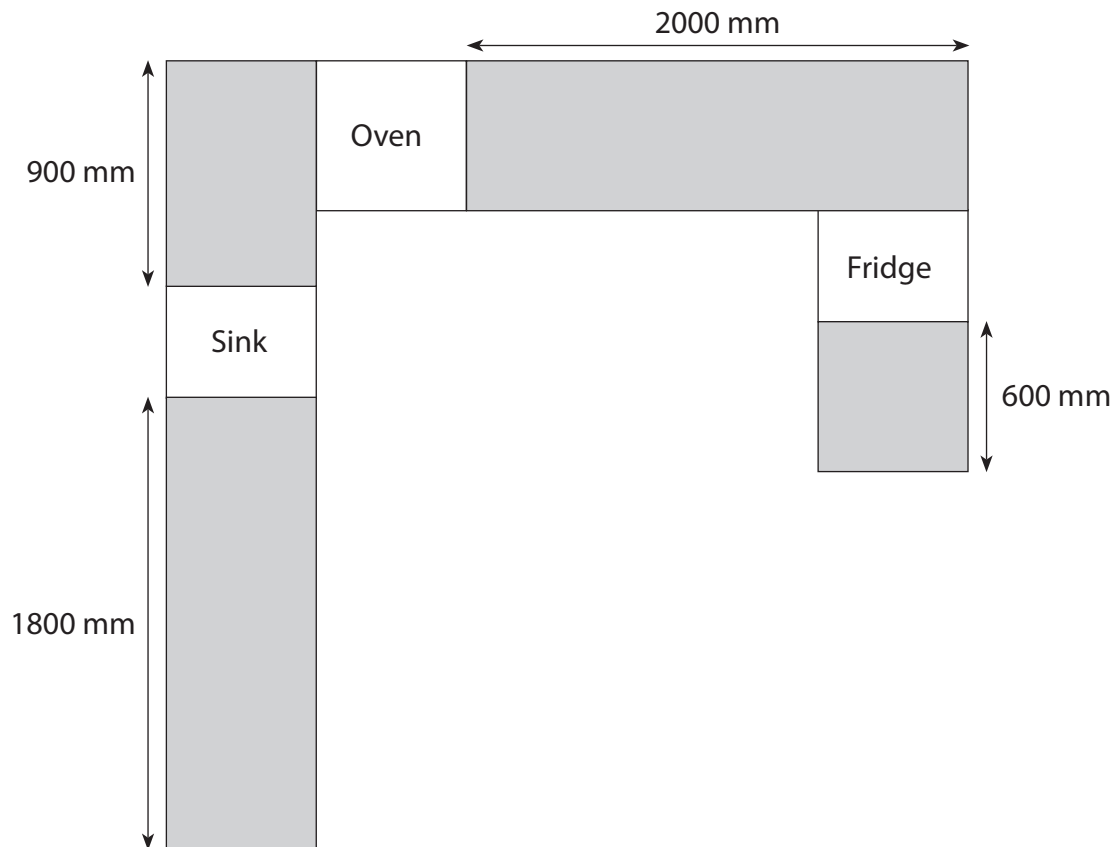
Write your answers in the spaces provided.

8 Kelly needs to buy new worktop for her kitchen.

She can only buy the worktop in 3 metre lengths.

Kelly can cut the worktop into shorter pieces.
She does not want to join pieces of worktop together.

Kelly draws a sketch to show what pieces of worktop she needs.

Kelly wants to buy the least possible number of worktop lengths.

(a) How many 3 metre lengths of worktop does Kelly need to buy?

(3)

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

Kelly is going to buy some tiles for the kitchen floor.
She needs a total of 36 tiles.

Kelly designs a pattern with black tiles and white tiles.
The pattern has black tiles and white tiles in the ratio 1:3

Kelly works out that she needs to buy 9 black tiles.

(b) Is Kelly 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.

Show your check in the box below.

☑

(Total for Question 8 is 7 marks)

9 Kelly is going to put a mirror on a wall in the lounge.

The mirror is in the shape of a rectangle 125 cm by 75 cm.

Kelly wants

• the top of the mirror to be at least 25 cm from the ceiling

• the bottom of the mirror to be at least 100 cm from the floor

• the mirror to be put on the wall symmetrically between the left edge and the right edge.

She makes a plan of the wall on a grid.

Ceiling

Left edge

Right edge
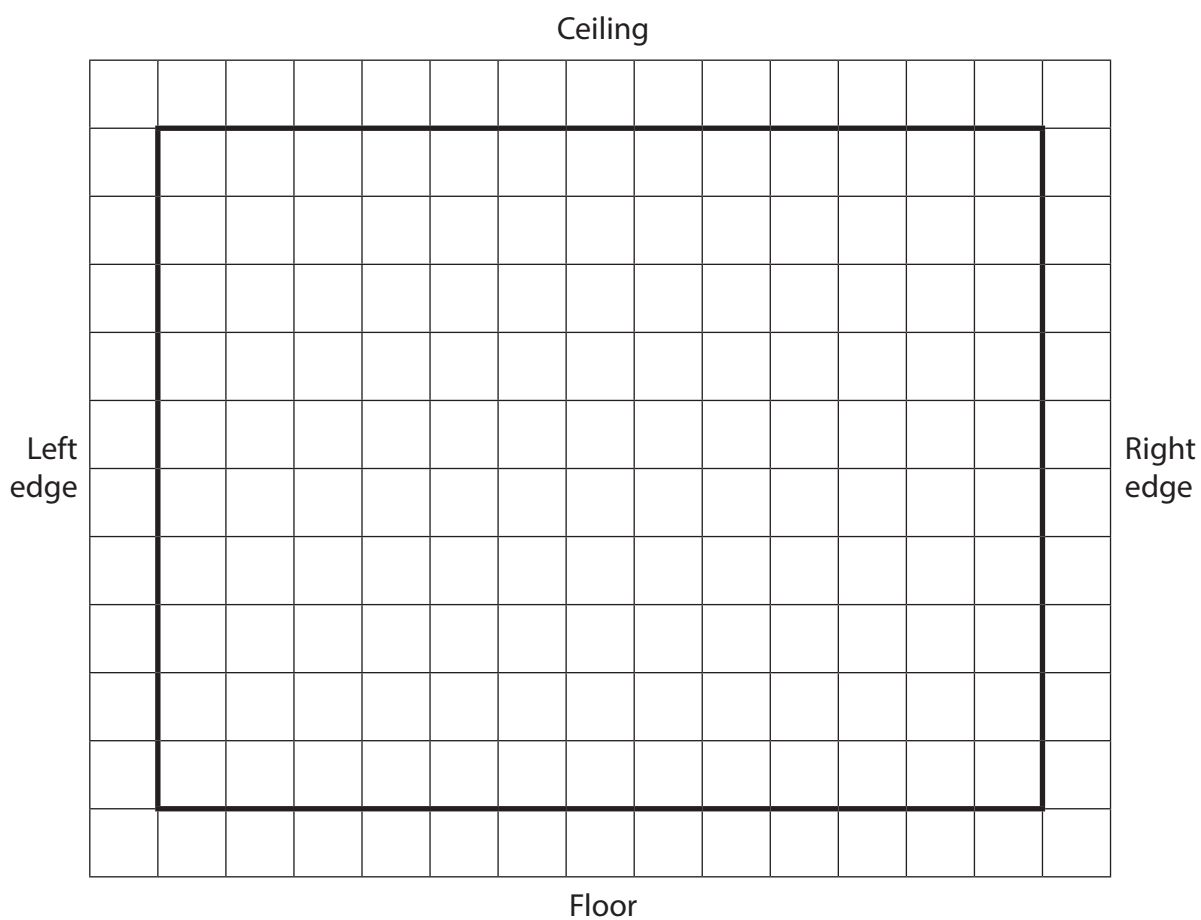
Floor

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

Draw a space for the mirror on the plan.
Remember to use the key.

(4)

(Total for Question 9 is 4 marks)

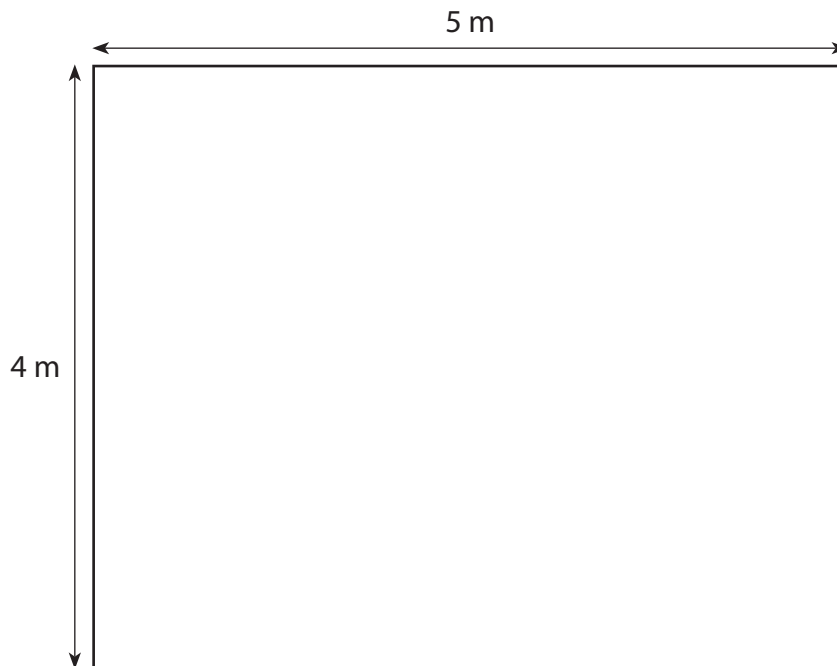**10** Kelly needs to choose some flooring to cover the lounge floor.

She finds this information.

Flooring	1 pack covers	1 pack costs
Gold oak	4 m^2	£32
White pine	3 m^2	£29
White oak	4 m^2	£30
Yellow pine	2 m^2	£21

Kelly wants pine flooring.

She draws a sketch of the floor.

5 m

4 m

Kelly can afford to spend up to £200 on flooring.

Does Kelly have enough money to buy all the pine flooring she needs?

(5)

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

(Total for Question 10 is 5 marks)

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