



AWDURDOD
CYMHWYSTERAU,
CYWRICWLWM AC ASESU
CYMRU
QUALIFICATIONS,
CURRICULUM &
ASSESSMENT AUTHORITY
FOR WALES



Key skills application of number Adult numeracy Level 2 Test Paper

YOU NEED

- This test paper
- An answer sheet
- A ruler marked in mm and cm

You may **NOT** use a calculator

You may use a bilingual dictionary

You may write on this paper if it helps you to work things out

Do **NOT** open this paper until you are told to do so by the supervisor

THERE ARE 40 QUESTIONS IN THIS TEST

Total marks available: 40

Try to answer ALL the questions

YOU HAVE 1 HOUR 15 MINUTES TO FINISH THE TEST

INSTRUCTIONS

- Make sure your personal details are entered correctly on the answer sheet
- Read each question carefully
- Follow the instructions on how to complete the answer sheet
- At the end of the test, hand the test paper, your answer sheet and all notes to the supervisor

REMEMBER: YOU HAVE 1 HOUR 15 MINUTES TO FINISH THE TEST

INSTRUCTIONS TO CENTRES

- This paper must not be photocopied

First published in 2004.

© Qualifications and Curriculum Authority 2004.

Reproduction, storage, adaptation or translation, in any form or by any means, of this publication is prohibited without prior written permission of the publisher, unless within the terms of licences issued by the Copyright Licensing Agency.

Printed in Great Britain.

The Qualifications and Curriculum Authority is an exempt charity under Schedule 2 of the Charities Act 1993.

Qualifications and Curriculum Authority, 83 Piccadilly, London W1J 8QA. www.qca.org.uk

Ref: Ao/NL/2/3.2/P/39/URN:188

Questions 1 to 4 are about a chef.

A chef prepares a lamb dish.

1 The recipe is for six servings and requires 330 grams of red peppers.

The chef makes ten servings of the dish.

What weight of red peppers should she use?

A 198g

B 220g

C 550g

D 600g

2 The chef needs 1.8 kilograms of lamb.

Which of these diagrams shows the weight closest to 1.8 kilograms?

Diagram a

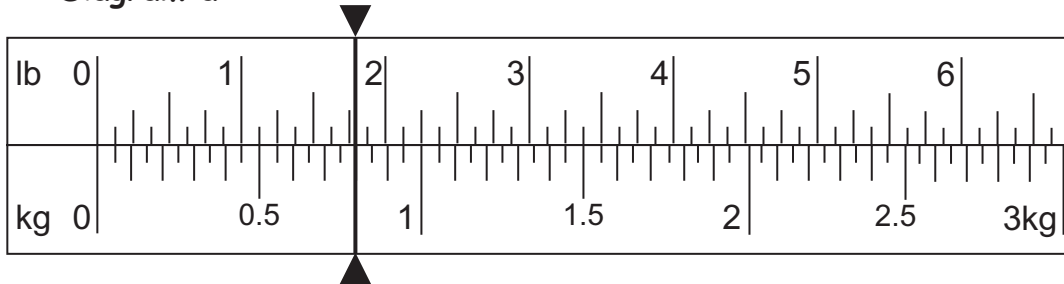


Diagram b

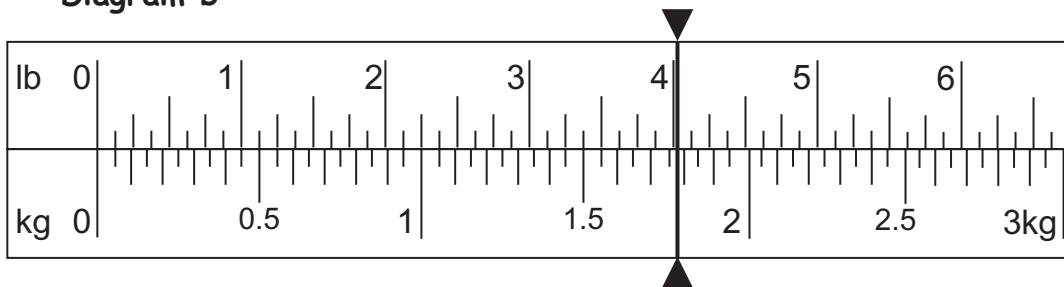


Diagram c

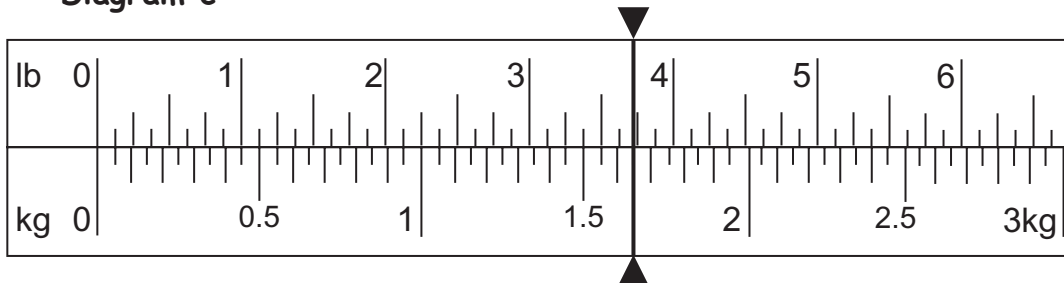
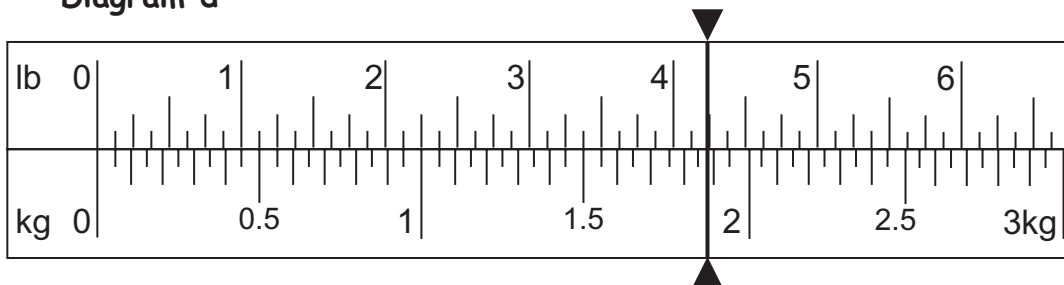


Diagram d



- A Diagram a
- B Diagram b
- C Diagram c
- D Diagram d

3 The dish must be ready at 7:15pm.

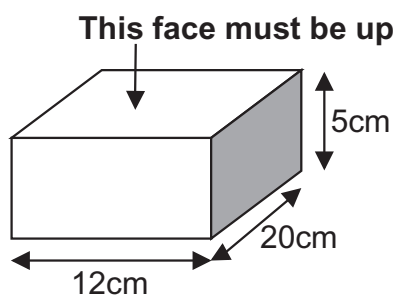
The preparation time is 40 minutes and the cooking time is $\frac{1}{2}$ hour.

What is the latest time that the chef should start to prepare the dish?

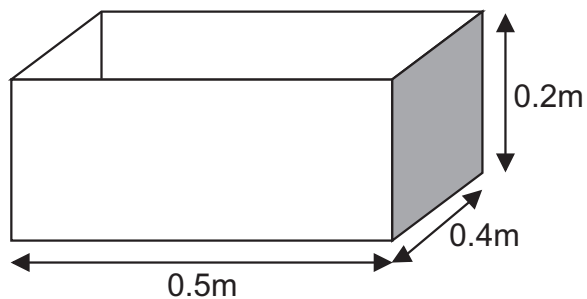
- A 4:45pm
- B 5:05pm
- C 5:25pm
- D 6:05pm

4 The chef packs ready-cooked meals into containers and stacks the containers in a freezer drawer so that they do not go above the top of the drawer.

The diagrams show the dimensions of each container and the internal dimensions of the freezer drawer.



container



drawer

Diagram not to scale

The maximum number of containers that fit in the drawer is

- A 9
- B 10
- C 24
- D 32

Questions 5 to 8 are about letting a holiday cottage.

- 5 The owner advertises the cottage in a European brochure.
The cottage is $\frac{1}{2}$ mile from the beach.

5 miles = 8 kilometres

How far is the cottage from the beach in kilometres?

- A 0.8km
- B 2.0km
- C 2.4km
- D 4.5km

Please go on to the next page

Questions 6 and 7 use the following information.

The owner makes this list showing the total bookings for the cottage in different seasons of the year.

Cottage bookings	
High Season:	6 full weeks
Mid Season:	13 full weeks
Low Season:	5 short breaks (3 nights only)

6 The rental charges for the cottage are

£510 per **full week** in High Season

£340 per **full week** in Mid Season

£125 per **short break** in Low Season

What are the total rental charges for these bookings?

A £5 045

B £6 885

C £8 105

D £8 124

7 The cottage is available for booking every night of the year.

The owner wants to know for what percentage of the total available nights the cottage is booked.

Which calculation gives this percentage?

A $\frac{(6 + 13) \times 7 + 5 \times 3}{365} \times 100$

B $\frac{365}{(6 + 13) \times 7 + 5 \times 3} \times 100$

C $\frac{6 + 13 + 5}{365} \times 100$

D $\frac{365}{6 + 13 + 5} \times 100$

8 A customer from Holland makes a booking for the cottage.

The owner requires a deposit of £190

She converts this to euros for the customer.

1 euro is approximately £0.70

Approximately how much is £190 in euros?

A 120 euros

B 133 euros

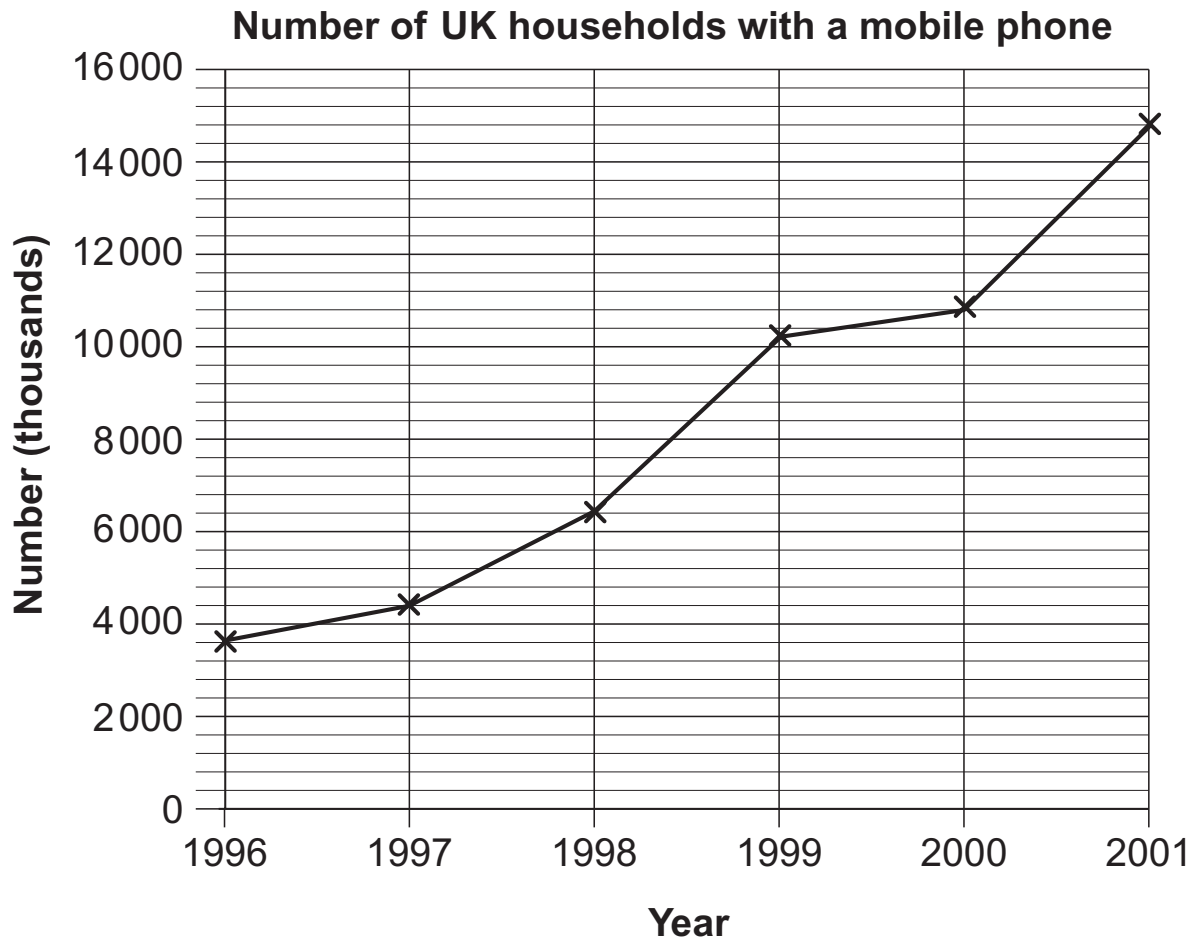
C 260 euros

D 271 euros

Questions 9 to 12 are about mobile phones.

A man researches mobile phone use.

- 9 The man finds the graph below showing the number of UK households with a mobile phone.



Between 1997 and 2001, the number of households in the UK with a mobile phone increased by

- A 10 100 000
- B 10 200 000
- C 10 400 000
- D 11 200 000

10 The man finds out that there were 31 750 000 mobile phone users in the UK in November 2002.

Between November 2002 and February 2003 this number increased by 2.7 million.

How many mobile phone users were there in the UK in February 2003?

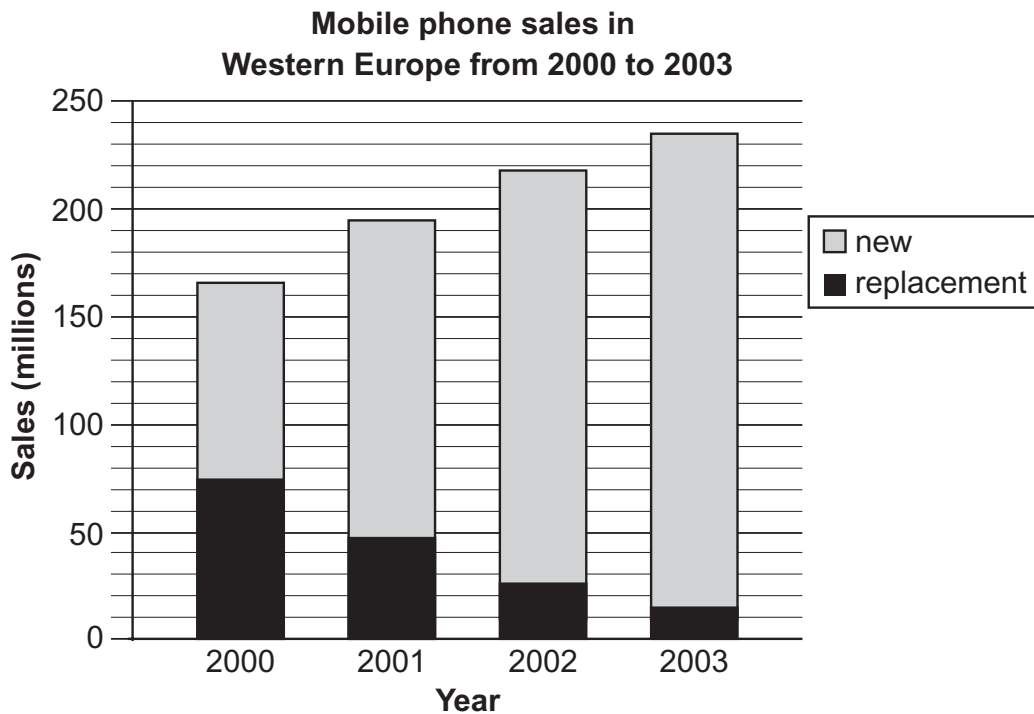
- A 31 752 700
- B 31 777 000
- C 32 020 000
- D 34 450 000

Please go on to the next page

- 11 The man collects data on sales of new and replacement mobile phones in Western Europe in the years 2000 to 2003.

Sales of Mobile Phones (millions)		
Year	New	Replacement
2000	74.5	90.5
2001	48.6	146.8
2002	25.6	193.3
2003	13.6	221.6

He makes a bar chart to display the information in the table.



What is wrong with the bar chart?

- A The key is not correct
- B The scale is not correct
- C The axis labels are not correct
- D There should be no gaps between the bars

- 12 The table shows the number of mobile text messages sent each month during 2001 and 2002.

Number of mobile text messages in millions		
	2001	2002
January	810	1400
February	870	1220
March	900	1330
April	940	1320
May	940	1380
June	950	1320
July	990	1360
August	1050	1410
September	1080	1420
October	1090	1520
November	1190	1500
December	1310	1620
Total	12120	16800

The man compares the median number of text messages in the two years.

What is the difference between the median number of text messages in 2001 and 2002?

- A 370 million
- B 380 million
- C 390 million
- D 420 million

Questions 13 to 16 are about running a café.

The café owner needs extra staff on days when the café is busy.

He counts the number of food orders per hour during one week.

The table below shows his results.

Number of food orders per hour						
	Mon	Tue	Wed	Thur	Fri	Sat
8am to 9am	4	7	4	1	13	8
9am to 10am	13	8	6	4	13	8
10am to 11am	14	10	11	10	14	14
11am to 12pm	13	13	12	14	15	14
12pm to 1pm	16	19	15	16	19	21
1pm to 2pm	17	18	14	13	16	20
2pm to 3pm	13	12	11	12	10	18
3pm to 4pm	5	11	10	9	5	15
4pm to 5pm	3	7	7	3	2	8
5pm to 6pm	2	1	3	2	1	4
Total	100	106	93	84	108	130

13 On how many days were there **more than 12** food orders per hour in three or more hours?

- A 2
- B 3
- C 5
- D 6

14 What is the difference between the mean number of food orders per hour on Monday and the mean number of food orders per hour on Saturday?

- A 1
- B 2
- C 3
- D 5

15 What is the range of the number of food orders per hour on Tuesday?

- A 6
- B 7
- C 18
- D 19

16 In another week, the café owner serves 151 vegetarian meals and 361 non-vegetarian meals.

He estimates the vegetarian meals as a percentage of all the meals.

Which of these is the closest estimate?

- A 20%
- B 30%
- C 33%
- D 40%

Please go on to the next page

Questions 17 to 20 are about a family cycling holiday.

17 The table below shows hire charges for cycles per day.

Charges for Cycle Hire per day					
	1 day	2 days	3 days	4 days	5 days
Adult cycle	£12.00	£11.40	£10.80	£9.60	£8.40
Child cycle	£8.00	£7.60	£7.20	£6.40	£5.60
Trailer	£10.00	£9.50	£9.00	£8.00	£7.00

The family hires two adult cycles, two child cycles and one trailer for three days.

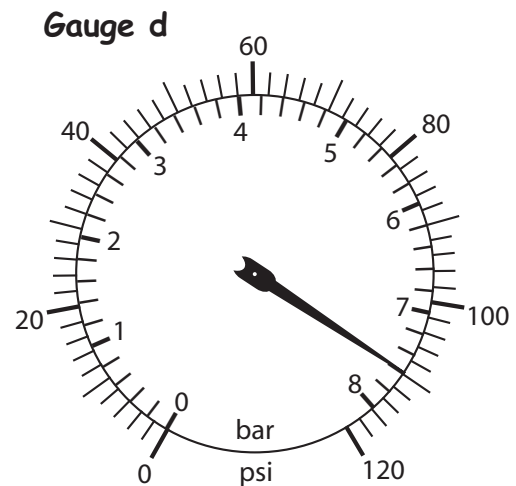
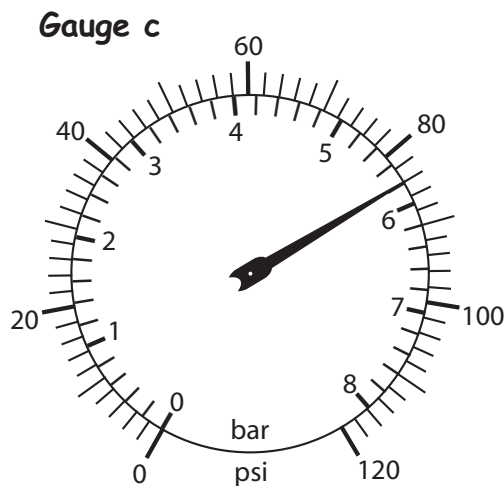
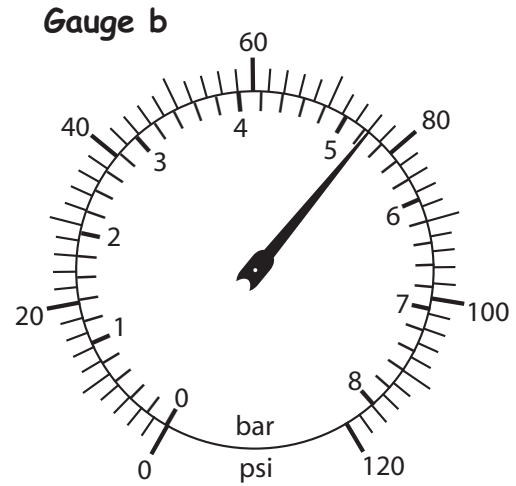
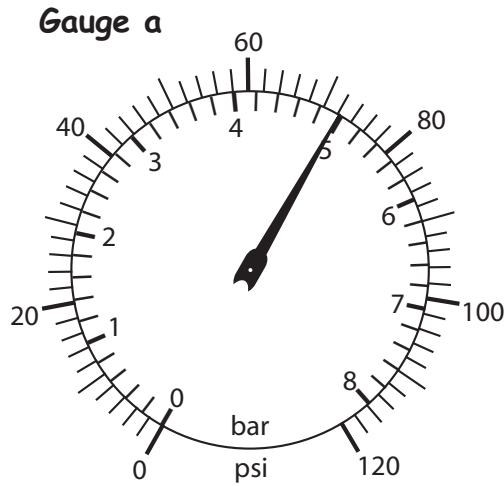
The total cost is

- A £150
- B £135
- C £81
- D £45

18 An assistant at the hire shop shows the family how to check their tyre pressures.

The recommended tyre pressure on one cycle is 76psi (pounds per square inch).

Which of these gauges shows a reading of 76psi?



- A Gauge a
- B Gauge b
- C Gauge c
- D Gauge d

19 The family's first cycle journey of 20 kilometres takes 1 hour 45 minutes.

A speedometer on one cycle records an average speed of 11.4 kilometres per hour.

Which calculation checks this speed?

A $11.4 \times 1.75 =$ length of cycle journey

B $11.4 \times 1.45 =$ length of cycle journey

C $11.4 \div 1.75 =$ length of cycle journey

D $11.4 \div 1.45 =$ length of cycle journey

20 The family plan to cycle from Warwick to Charlecote.

The distance on the map is 25 centimetres.

The map has a scale of 1 : 50 000

What is the actual distance from Warwick to Charlecote?

A 5km

B 12.5km

C 50km

D 125km

Questions 21 to 28 are about an estate agent.

21 The estate agent works out the maximum mortgage for a couple using the following formula.

The maximum mortgage is the greater of

3 x main income + second income

or

2.5 x (main income + second income)

The couple have a main income of £22 000 and a second income of £16 000

Their maximum mortgage is

- A £71 000
- B £82 000
- C £95 000
- D £114 000

Please go on to the next page

22 The table gives the rates for fixed rate mortgages.

Mortgage required	Fixed rate	For up to
90% or less of the value of the house	4.19%	2 years
	4.39%	3 years
	4.79%	5 years
	4.99%	7 years
over 90% of the value of the house	4.49%	2 years
	4.69%	3 years
	5.09%	5 years
	5.29%	7 years

The couple plan to borrow 95% of the value of the house.

They want a mortgage with a fixed rate for at least four years.

What is the lowest fixed rate they can pay?

- A 4.19%
- B 4.69%
- C 4.79%
- D 5.09%

Questions 23 and 24 use the following information.

The estate agent keeps a record of the time that properties take to sell.

He compares the properties sold in October 2001 with those sold in October 2002.

The table below shows the number of weeks taken to sell these properties.

	Number of weeks taken to sell properties																				
October 2001	12	12	7	5	3	13	4	13	9	6	14	12	7	15	12	3	6	3	14	10	16
October 2002	4	5	7	20	9	12	2	9	3	8	8	7	5	5	13						

23 For October 2002, what was the range of the number of weeks taken to sell properties?

- A 5
- B 9
- C 18
- D 20

24 What is the difference between the modal numbers of weeks taken to sell properties in October 2001 and in October 2002?

- A 1
- B 3
- C 5
- D 7

Questions 25 and 26 use the following information.

The estate agent looks at property sales figures for the whole region.

The list below shows the number of each type of property sold in the region between October and December 2002.

Detached houses	17 100
Semi-detached houses	18 200
Terraced houses	19 700
Flats	14 100
Total property sales	69 100

25 Which of these is the **most** suitable method of showing the number of properties of each type that were sold in the region?

- A a bar chart
- B a scatter graph
- C a pie chart
- D a line graph

26 Which is the most accurate estimate of the fraction of the total number of properties sold in the region that were flats?

- A $\frac{1}{4}$
- B $\frac{1}{5}$
- C $\frac{1}{6}$
- D $\frac{1}{7}$

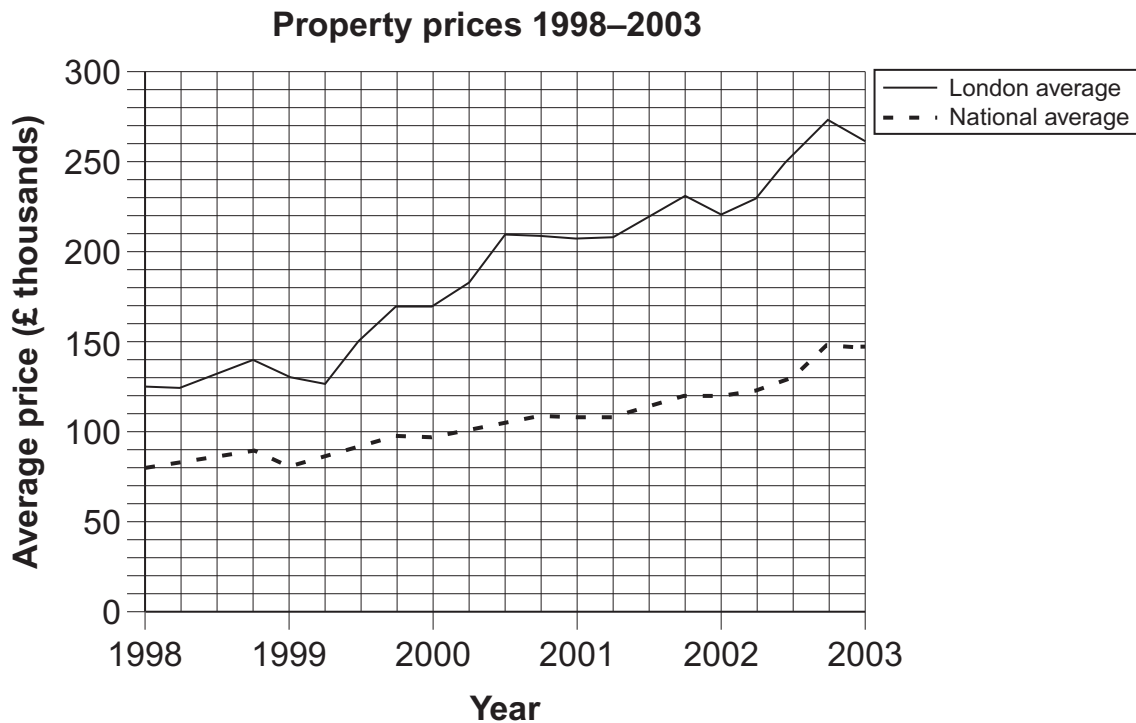
27 The table below gives the percentage change in the average price of flats in each region of England during the first three months of 2003.

Region	Percentage change in average price of flats
North	+ 14.3%
Yorkshire and Humberside	– 7.4%
North West	– 0.5%
East Midlands	+11.1%
West Midlands	+ 7.2%
East Anglia	– 8.1%
London	+ 2.5%
South East (outside London)	+ 2.0%
South West	+ 4.2%

In how many regions did the average price of flats increase by **more than 2%**?

- A 5
- B 6
- C 7
- D 8

28 The graph below shows how average property prices varied in London and nationally between 1998 and 2003.



The graph shows that

- A London average property prices varied more than national average property prices
- B the national average property price was less than the cheapest property in London
- C between 1998 and 2003 national average property prices more than doubled but London average property prices rose by less than 50%
- D between 1998 and 2003 London average property prices were always more than double the national average property price

Please go on to the next page

Questions 29 to 32 are about a healthy breakfast.

29 A standard packet of cornflakes contains 750 grams.

A woman buys a special offer packet with 200 grams extra.

How many complete servings of 35 grams of cornflakes does the special offer packet contain?

- A 26
- B 27
- C 28
- D 30

30 There are 0.6 milligrams of vitamin B₆ in a serving of cornflakes.

This provides $\frac{1}{3}$ of a woman's daily requirement.

How much **more** vitamin B₆ does the woman need to obtain her daily requirement?

- A 0.4mg
- B 0.8mg
- C 1.2mg
- D 1.8mg

31 There are 17.6 grams of fat in 1 litre of semi-skimmed milk.

1 litre = 1 000 millilitres

Which method gives the amount of fat, in grams, in 125 millilitres of semi-skimmed milk?

A $17.6 \times \frac{125}{1000}$

B $17.6 \times \frac{1000}{125}$

C $\frac{125 \times 1000}{17.6}$

D $\frac{17.6}{125 \times 1000}$

32 A woman allows herself 2000 calories per day.

Her healthy breakfast has 250 calories.

What percentage of her daily calorie allowance comes from her healthy breakfast?

A 7%

B 8%

C 12.5%

D 14.3%

Questions 33 to 36 are about a hotel that hires out rooms for events.

The hotel manager measures the rooms to apply for an entertainment licence.

33 The diagram below shows the lounge.

Sketch plan of lounge

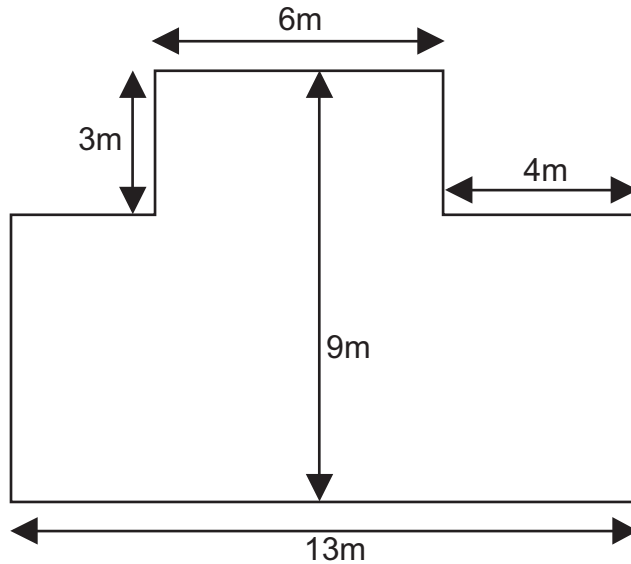


Diagram not to scale

All corners are right angles

What is the area of the lounge floor?

- A 28m^2
- B 35m^2
- C 44m^2
- D 96m^2

34 The hotel manager makes a 1 : 50 scale plan of the lounge.

The length of one of the walls is 4 metres.

What is this length on the scale plan?

- A 2cm
- B 8cm
- C 12.5cm
- D 20cm

35 The dining room floor is a rectangle 15 metres long and 8 metres wide.

The room is 3 metres high.

The hotel manager calculates the volume of the room to see if there is enough ventilation.

What is the volume of the room?

A 26m^3

B 69m^3

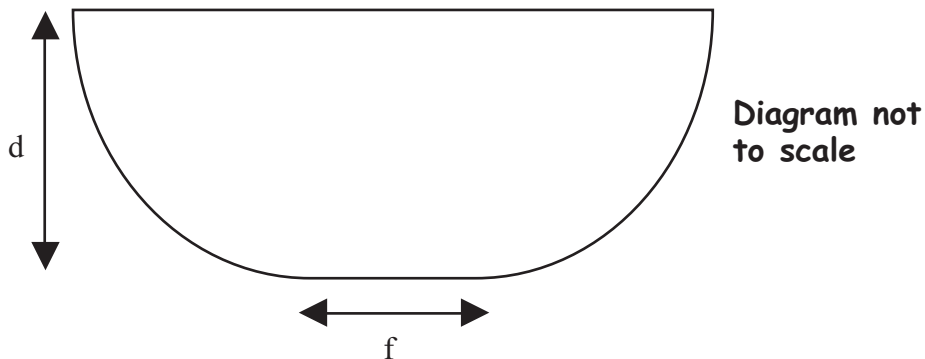
C 123m^3

D 360m^3

Please go on to the next page

36 In another room there is a stage for performers.

Diagram of stage



The hotel manager needs to know the stage area of the room for health and safety requirements.

She uses the formula below to calculate the area of the stage.

$$A = fd + \frac{3d^2}{2}$$

where A is the area of the stage in square metres
 f is the width of the front of the stage in metres
 d is the depth of the stage in metres

The width of the front of the stage is 2 metres.

The depth of the stage is 3 metres.

What is the area of the stage?

- A 11.0m²
- B 15.0m²
- C 16.5m²
- D 19.5m²

Please go on to the next page

Questions 37 to 40 are about a computer store.

37 The usual price of a computer is £999.95

The computer store sells the computer for £799.95 in a sale.

The price is reduced by approximately

A $\frac{1}{5}$

B $\frac{2}{9}$

C $\frac{1}{4}$

D $\frac{4}{5}$

38 A customer buys the computer for £799.95 by paying £80 in cash and the rest in five equal monthly instalments.

Which method calculates the monthly instalment in pounds?

A $799.95 \div 5 - 80$

B $(799.95 - 80) \times 5$

C $799.95 - 80 \div 5$

D $(799.95 - 80) \div 5$

39 A salesman's rate of pay is £6.30 per hour.

He also gets a bonus of £1 for every **complete** £200 of sales he makes.

One week he works for 35 hours and makes sales of £4 116.96

How much does he earn in total that week?

A £210.50

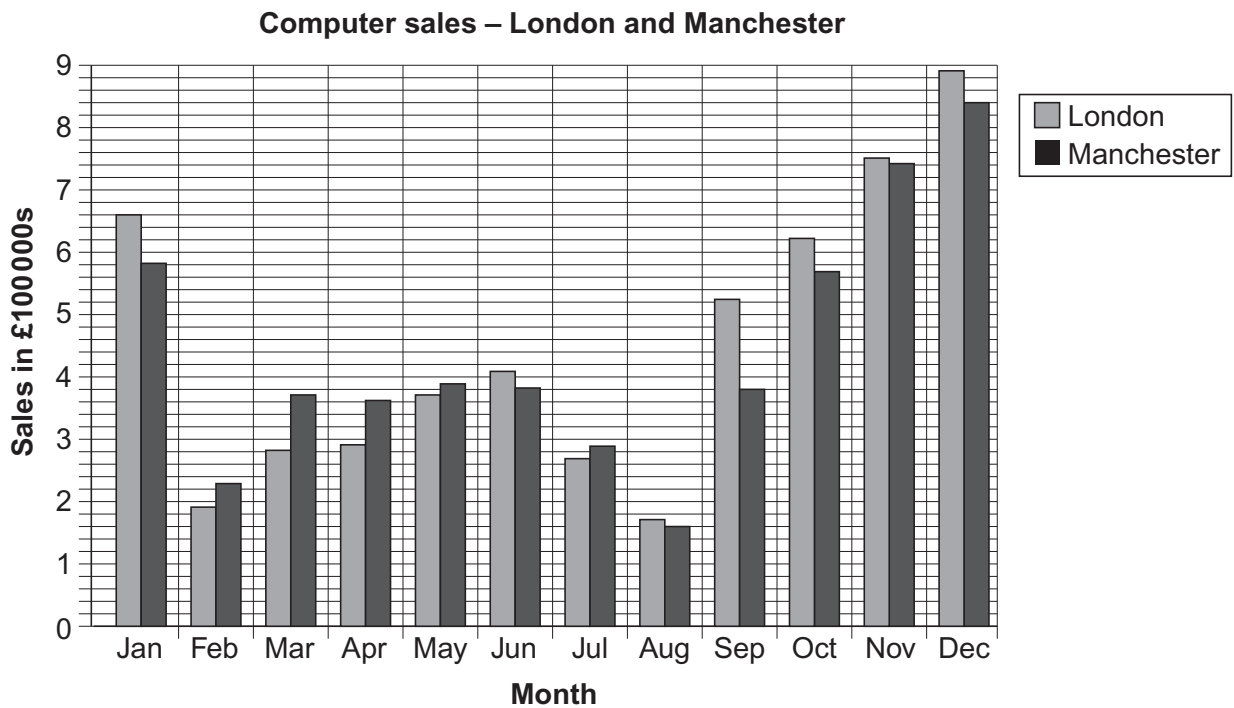
B £240.50

C £240.85

D £420.50

Please go on to the next page

40 The chart below shows the value of computer sales at the London and Manchester branches of the company last year.



How much greater was the value of computer sales in Manchester in December than in August?

- A £640 000
- B £680 000
- C £690 000
- D £720 000

End of test