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QUALIFICATIONS  
CURRICULUM &  
ASSESSMENT AUTHORITY  
FOR WALES



# Key skills application of number Adult numeracy Level 2

## Test Paper B

### 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

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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 AND 15 MINUTES TO FINISH THE TEST**

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

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This table shows the number of children and the number of television sets in households.

		Number of Children in Household				
		0	1	2	3	4
Number of TV sets in the Household	0	1	0	0	0	1
	1	8	7	15	12	8
	2	6	5	10	4	8
	3	1	2	5	1	1

1 How many households have three children and two television sets?

- A 4
- B 5
- C 17
- D 33

2 How many households took part in the survey?

- A 16
- B 17
- C 20
- D 95

3 A television set costs £300.

The price is reduced by 25% in a sale.

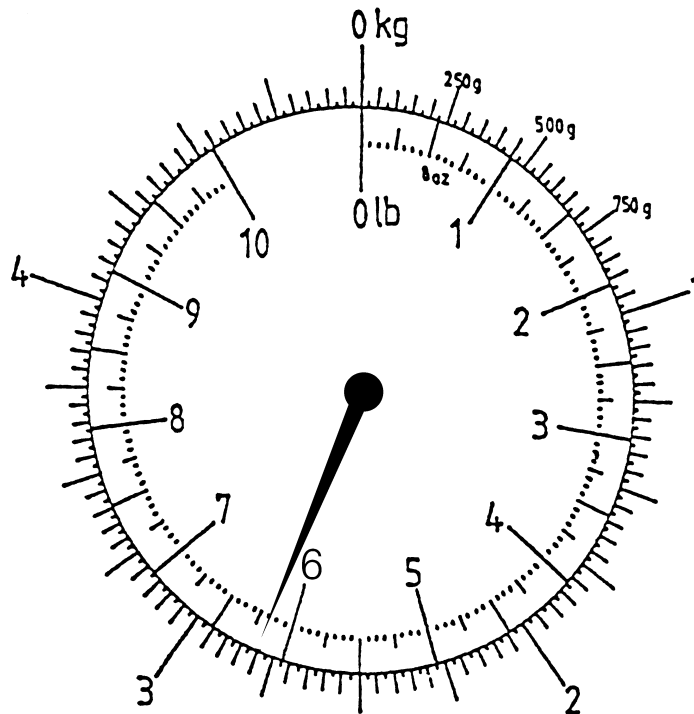
What is the sale price of the television?

- A £75
- B £225
- C £275
- D £375

4 A packet of fish fingers normally sells for £1.20.  
There is a 'buy one get one free' offer on them.  
A customer buys as many as possible with a £5 note.  
How many packets should he get?

- A 4
- B 5
- C 8
- D 9

This diagram shows the dial on the parcel scales in a post office  
 The weight can be read in either pounds or kilograms.



- 5 What is the reading on the dial in kilograms and grams, to the nearest 250 grams?
- A 2kg 15g
  - B 2kg 750g
  - C 3kg 250g
  - D 3kg 25g
- 6 A parcel weighs 1.2 kilograms.  
 How much is this to the nearest quarter pound?
- A 3 pounds
  - B  $2\frac{3}{4}$  pounds
  - C  $2\frac{1}{2}$  pounds
  - D  $2\frac{1}{4}$  pounds

A snooker club with 420 members has several tables.

The booking secretary analyses table usage and notes that the most active group (20% of the members) use the tables for  $\frac{4}{5}$  of the available times.

7 How many members are there in the most active group?

- A 17
- B 67
- C 84
- D 336

8 For what percentage of the time does the most active group use the table?

- A 4 %
- B 40 %
- C 50 %
- D 80 %

9 A tailor makes children's clothes.

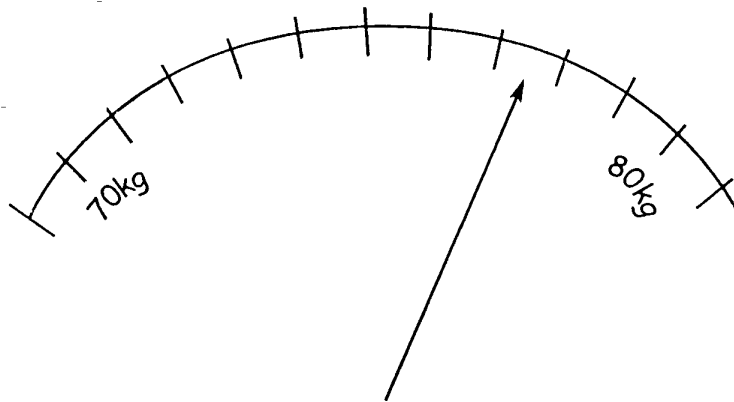
The cost of 5 metres of material is £12.50.

How much would 8 metres of the same material cost?

- A £2.50
- B £16.80
- C £20.00
- D £25.00

10 A man stands on the bathroom scales with his clothes on.

The diagram shows the reading on the scale.



His clothes weigh 2 kilograms.

How much does he weigh unclothed?

- A 75.5kg
- B 77.5kg
- C 79.5kg
- D 80.0kg

This table shows a three-month summary of receipts and payments for a sports shop.

**Cash Flow in £000s**

	<b>July</b>	<b>August</b>	<b>September</b>	<b>Total</b>
<b>Receipts</b>				
Cash from Sales	120.3	40.5	75.2	236.0
Other income	9.2	4.2	5.0	18.4
Totals	129.5	44.7	80.2	254.4
<b>Payments</b>				
Materials from suppliers	50.6	27.0	70.4	148.0
Wages and salaries	13.4	15.0	13.6	42.0
Overheads	23.0	11.0	12.0	46.0
Capital expenditure	5.0	8.0	2.0	15.0
Totals	92.0	61.0	98.0	237.0

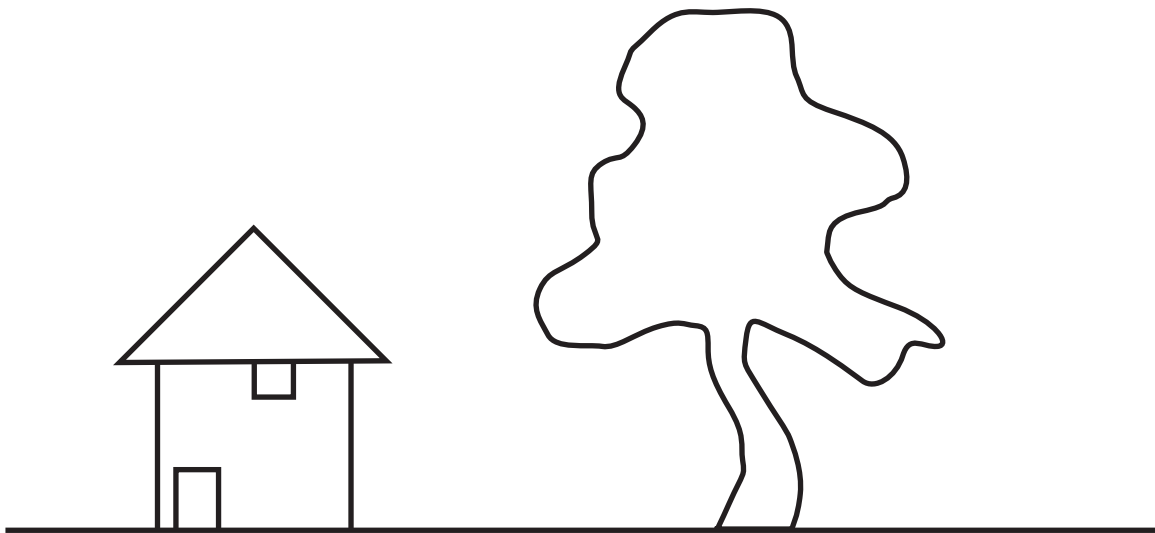
11 The total receipts for the three months are £254.4 One of these methods of checking the calculation is wrong. Which one is wrong?

- A  $236.0 + 18.4$
- B  $129.5 + 44.7 + 80.2$
- C  $120.3 + 40.5 + 75.2 + 9.2 + 4.2 + 5.0$
- D  $9.2 + 129.5 + 4.2 + 44.7 + 5.0 + 80.2$

12 In the table, what level of accuracy has been used in the figures?

- A nearest 10p
- B nearest £1
- C nearest £100
- D nearest £1000

- 13 Mary is concerned about the growth of a large tree near her house.  
This sketch shows the height of the tree in relation to the height of the house.



The house is 9.1 metres high.  
Estimate the height of the tree.

- A 12m
- B 16m
- C 20m
- D 35m

A travel agent produces a summary of sales of holiday types for the first six months of a year.

**Sales of Holidays**

	<b>Beach Holidays</b>	<b>City Breaks</b>	<b>Coach Tours</b>	<b>Flight Only</b>	<b>Total</b>
January	65	47	62	29	203
February	82	48	85	43	258
March	79	37	53	55	224
April	87	59	65	78	289
May	104	30	47	97	278
June	123	19	36	88	266
Totals for 6 months	540	240	348	390	1 518

14 What is the mean monthly sales of City Breaks?

- A 40
- B 58
- C 65
- D 90

15 What is the range of the sales across all types of holidays in February?

- A 39
- B 42
- C 58
- D 125

This table shows the number of employees in a company by gender for three years.

Year	Number of employees	
	Men	Women
1998	350	150
1999	290	210
2000	275	225

16 What percentage of the total employees in 1998 are men?

- A 22%
- B 30%
- C 43%
- D 70%

17 What is the ratio of **women** to **men** in 2000?

- A 2 : 3
- B 9 : 11
- C 11 : 9
- D 3 : 2

A survey is made of travelling times to college.

The table shows (in minutes) the results from one group of 20 students.

25	25	30	30	30	50	20	15	10	20
25	10	30	40	20	30	20	15	20	25

18 What percentage of the journeys are **longer** than 30 minutes?

- A 10%
- B 20%
- C 35%
- D 70%

19 What is the mean length of time for a journey?

- A 22.5 minutes
- B 23.5 minutes
- C 24.5 minutes
- D 25.5 minutes

20 What is the range of the journey times?

- A 5 minutes
- B 10 minutes
- C 20 minutes
- D 40 minutes

21 A car manufacturer produces an owner's handbook for one of its cars.

The section on which oil to use in the engine recommends the type of oil to use for different temperature ranges.

Type	Temperature range in °C
SAE 20W-50	-10 to 45
SAE 15W-40	-15 to 40
SAE 15W-50	-15 to 45
SAE 10W-30	-20 to 30

What is the biggest range of temperatures of an oil in the table?

- A 50°C
- B 55°C
- C 60°C
- D 65°C

22 A salesman records the registration letter of the cars for sale at his garage.

The table shows his results.

Registration Letter	R	S	T	V
Frequency	20	36	41	23

The salesman draws a pie chart to show this information.

Which angle should he use for registration letter V?

- A 19°
- B 23°
- C 69°
- D 123°

23 A metal cylinder weighs 4 kilograms.

When filled with gas it weighs 5 kilograms.

What is the weight of the gas as a fraction of the weight of the cylinder full of gas?

- A  $\frac{1}{9}$
- B  $\frac{1}{5}$
- C  $\frac{1}{4}$
- D  $\frac{4}{5}$

24 The label on a can of soup gives this nutritional information.

Typical Values	Per 100g	Per Can
Energy	27Kcal	108Kcal
Protein	0.8g	3.2g
Carbohydrate	5.6g	22.4g
Fat	0.2g	0.8g
Fibre	0.9g	3.6g
Sodium	0.3g	1.2g

What is the ratio of fat to fibre in the soup?

- A 1 : 4
- B 2 : 9
- C 4 : 1
- D 9 : 2

25 A gardener buys a 20 kilogram bag of fertiliser.

The label states that the recommended coverage is 2 kilograms per square metre.

She uses the fertiliser on a garden border that is 1.5 metres wide.

Which calculation shows the length of border she can cover using one bag?

A  $20 - (2 + 1.5)$

B  $(20 \div 2) \div 1.5$

C  $(20 \div 2) \times 1.5$

D  $(20 \div 1.5) \times 2$

26 A builder is laying a slab of concrete.

The diagram shows the slab of concrete used.

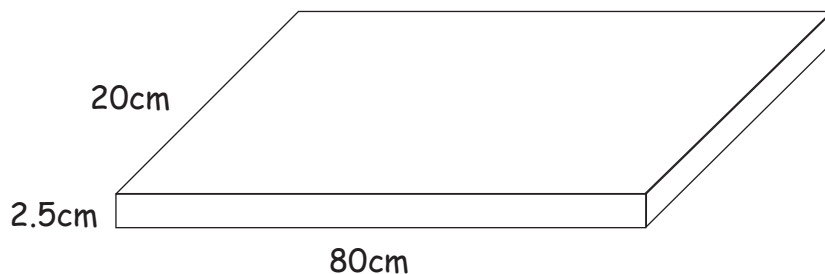


Diagram  
not to  
scale

What is the volume of the slab of concrete?

A  $102.5\text{cm}^3$

B  $250\text{cm}^3$

C  $1800\text{cm}^3$

D  $4000\text{cm}^3$

To convert degrees Celsius ( $^{\circ}\text{C}$ ) to degrees Fahrenheit ( $^{\circ}\text{F}$ ), the formula is:

$$C = (F - 32) \times \frac{5}{9}$$

27 The temperature in Brighton is 82 degrees Fahrenheit.

What is the temperature in degrees Celsius, to the nearest degree?

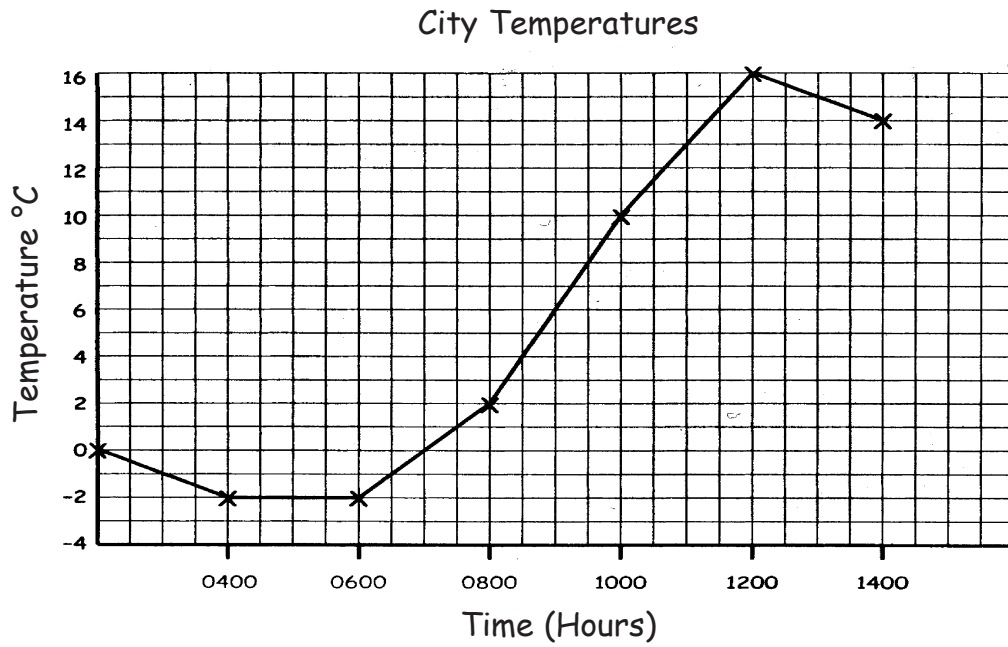
- A 1.3 $^{\circ}\text{C}$
- B 20 $^{\circ}\text{C}$
- C 25 $^{\circ}\text{C}$
- D 28 $^{\circ}\text{C}$

28 The temperature in Moscow is -4 degrees Fahrenheit.

What is the temperature in degrees Celsius?

- A 20 $^{\circ}\text{C}$
- B -15.6 $^{\circ}\text{C}$
- C 16.5 $^{\circ}\text{C}$
- D -20 $^{\circ}\text{C}$

29 This graph shows the temperatures in a city on one day.



What is the **best** estimate of the temperature at 9am?

- A 4°C
- B 6°C
- C 8°C
- D 9.5°C

30 This table shows the mid-day temperatures in 10 places on one day.

Place	Mid-day Temperature in °C
Athens	16
Berlin	- 5
Blackpool	5
Cardiff	3
Geneva	- 1
Jersey	4
Vienna	0
Moscow	- 6
Paris	1
Zurich	- 2

On the next day, the mid-day temperature in Moscow is 5°C lower.

The mid-day temperature in Zurich is 1°C higher.

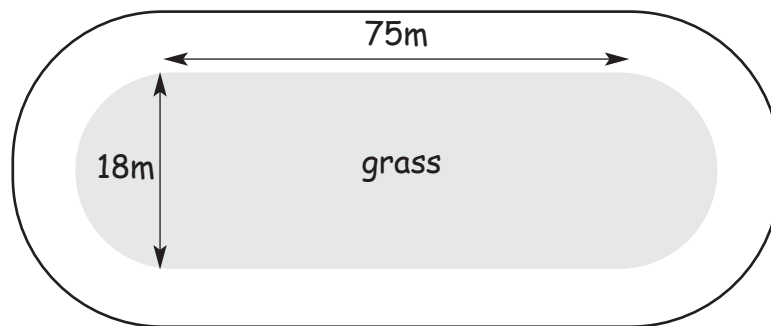
How many degrees warmer at mid-day is Zurich than Moscow on this day?

- A -12 °C
- B -10 °C
- C 10 °C
- D 12 °C

- 31 The diagram shows a running track with semi-circular ends.  
The approximate area of a circle is given by the formula

$$\text{Area} = 3 \times (\text{radius})^2$$

The track is the same width all the way round.



Which of these calculations gives the area of grass in the middle of the track?

- A**  $75 \times 18 + \frac{1}{2} \times 3 \times 9^2$   
**B**  $75 \times 18 + 3 \times 9^2$   
**C**  $75 \times 18 + \frac{1}{2} \times 3 \times 18^2$   
**D**  $75 \times 18 + 3 \times 18^2$
- 32 Here are the lengths of twenty fish.

Length in centimetres

20, 15, 17, 13, 19, 26, 30, 14, 18, 21, 10, 14, 17, 13, 15, 19, 28, 8, 27, 4

What is the median length of the fish?

- A** 14cm  
**B** 15.5cm  
**C** 17cm  
**D** 17.5cm

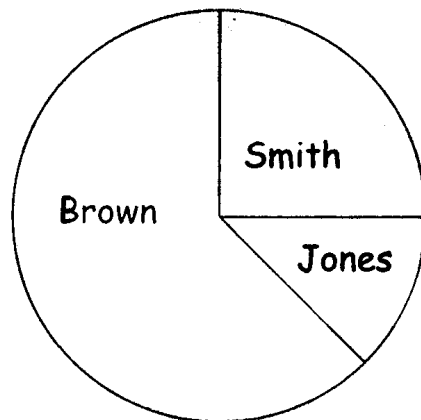
33 At a travel agent the exchange rate for buying back euros is €1.62 for £1. No commission is charged.

A traveller has €300 to change back into pounds.

What is the **closest** approximation to the amount she should receive?

- A £486
- B £200
- C £185
- D £150

34 The pie chart shows the votes for three people in a local election.



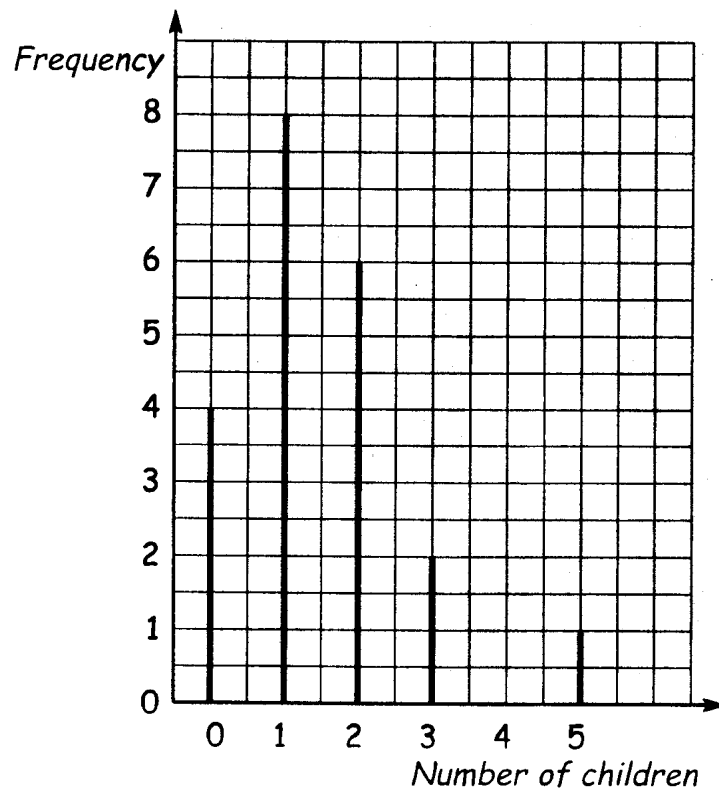
In total 240 people voted.

How many people voted for Smith?

- A 25
- B 60
- C 80
- D 90

A researcher asks a question about the number of children in families.  
This chart shows her results for one day.

Number of children in families



35 How many families had more than 1 but fewer than 5 children?

- A 8
- B 16
- C 17
- D 21

36 What is the median number of children in the families?

- A 1
- B 2
- C 2.5
- D 3

A baker makes cakes. Each cake fits into a cylindrical tin.

This diagram shows the tin.

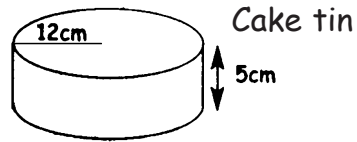


Diagram  
not to  
scale

He packs the tins in a box shown in the diagram.

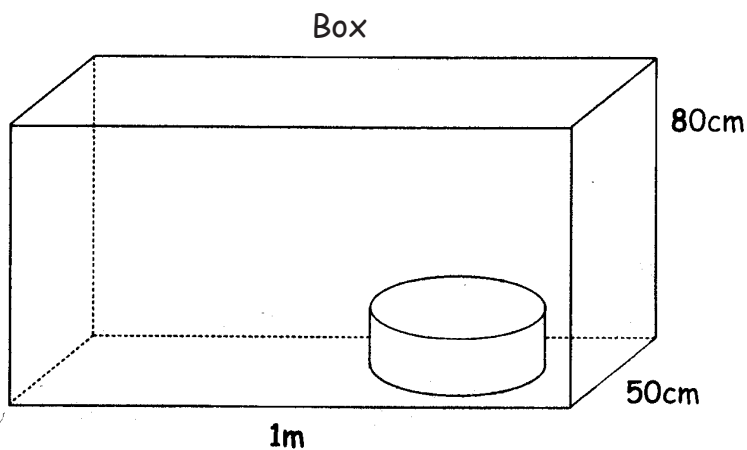


Diagram  
not to  
scale

37 The **maximum** number of tins the baker can pack in a box is

- A 96
- B 112
- C 128
- D 512

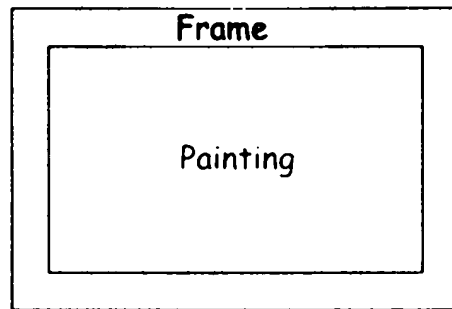
38 The baker decides to use smaller packing boxes.

The length, breadth and height are all halved.

The maximum number of tins in the **smaller** box will be

- A halved
- B doubled
- C divided by 4
- D divided by 8

An art gallery is sent a scale drawing of a painting in its frame.



39 The scale of the drawing is 1:20.

What is the actual area of the painting that can be seen?

- A 60cm x 100cm
- B 60cm x 120cm
- C 80cm x 100cm
- D 80cm x 120cm

40 A painting weighs 794 grams.

Its frame weighs 2 389 grams.

Estimate the weight of the painting as a fraction of the **total** weight.

- A  $\frac{1}{4}$
- B  $\frac{1}{3}$
- C  $\frac{2}{3}$
- D  $\frac{3}{4}$

# END OF TEST