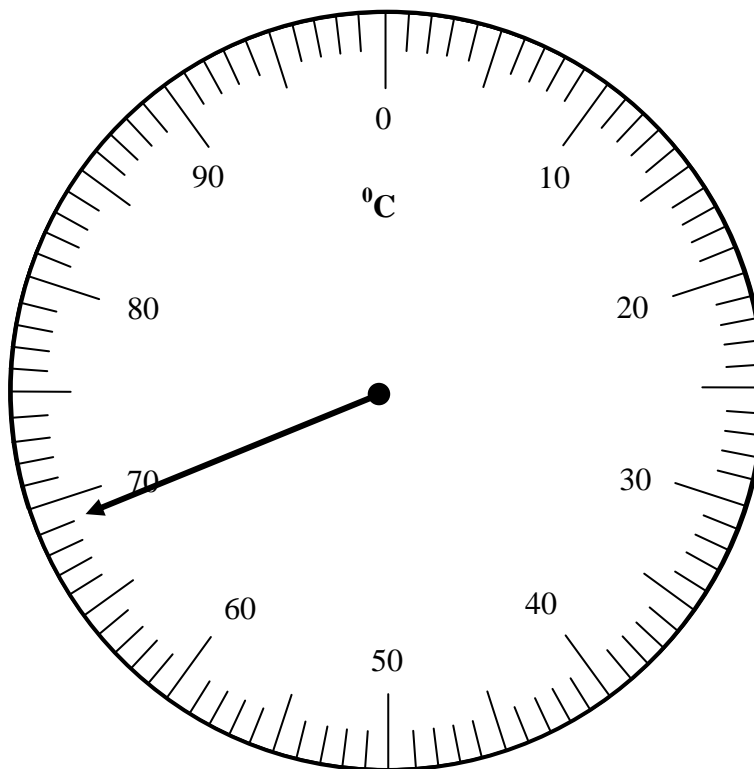


- 1 A hot air balloon takes off from a showground 350 metres above sea level.
The pilot aims to land in a field 70 metres above sea level.
The balloon rises 40 metres after take off and then drops 135 metres.

What is the height of the balloon above the landing field now?

- A 325m
- B 255m
- C 185m
- D 145m

- 2 The pilot has a temperature gauge in the balloon.
The diagram shows the reading on the gauge.



What temperature does the gauge show to the nearest degree Celsius?

- A 65°C
- B 69°C
- C 70°C
- D 71°C

3 A florist sends a box of flowers by rail from Derby to Kettering.

The timetable for this journey is

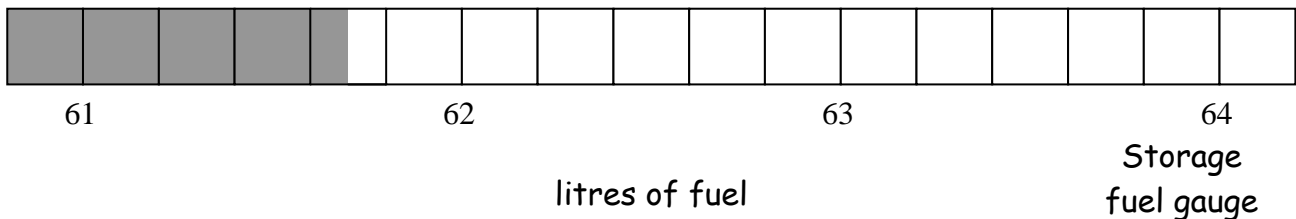
Derby	0637	0701	0820	0920
Loughborough		0718	0840	0940
Leicester	0704	0730	0845	0954
Market Harborough		0745	0919	1019
Kettering	0731	0756	0930	1030

A worker at the firm allows 10 minutes for packing the order.
 She then allows 20 minutes to drive to the station.
 She allows 15 minutes to process the delivery at the station offices.
 The customer will meet the train at Kettering station at 0930.

The **latest** time the worker can start to pack the order is

- A 0735
- B 0750
- C 0800
- D 0805

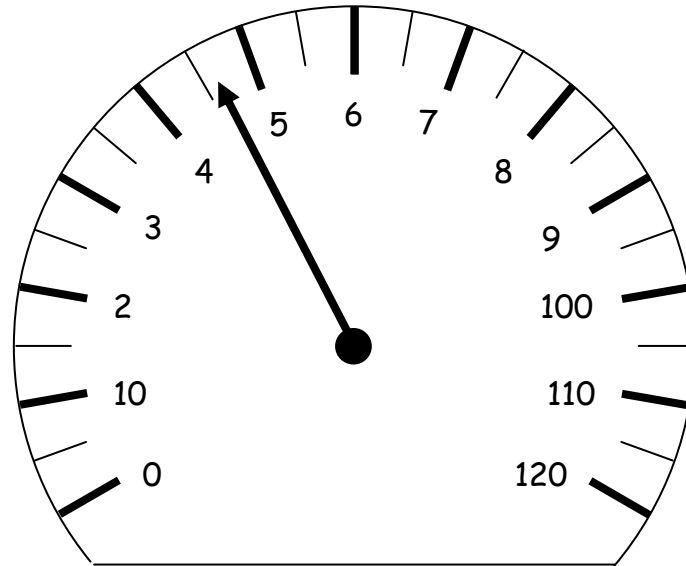
4 The organiser of a party claims expenses for travel. At the start of his journey he looks at the fuel gauge on his car.



On his return home he notices that the gauge now reads 58.4 litres.
 How much fuel has he used?

- A 2.95 litres
- B 3.3 litres
- C 3.75 litres
- D 3.9 litres

- 5 A mechanic road tests a car after servicing it.
At one point during the road test the reading on the speedometer showed



To the **nearest five miles per hour** the reading shown is

- A 40 mph
 - B 45 mph
 - C 50 mph
 - D 55 mph
- 6 The council gives a community group a grant of £750 towards setting up and running local facilities for recycling.
The table shows the grant and the profit or loss the community group made each month for the first six months.

Council grant	+£750
Month	Profit(+) or loss (-)
July	-£100
August	-£50
September	-£40
October	+£35
November	+£75
December	-£50

How much money does the community group have at the end of the six months?

- A £1 100
- B £880
- C £620
- D £400

7 A driver plans a journey.

She works out that the driving will take $5\frac{1}{4}$ hours and allows 30 minutes for a break.

She wants to arrive by 1600

What is the latest time she should start the journey?

- A 1005
- B 1015
- C 1045
- D 1055

8 A shop assistant places cans of spray paint on a display stand.

The stand measures 80 centimetres long by 50 centimetres wide.

The diagram shows a plan view of part of the display stand.

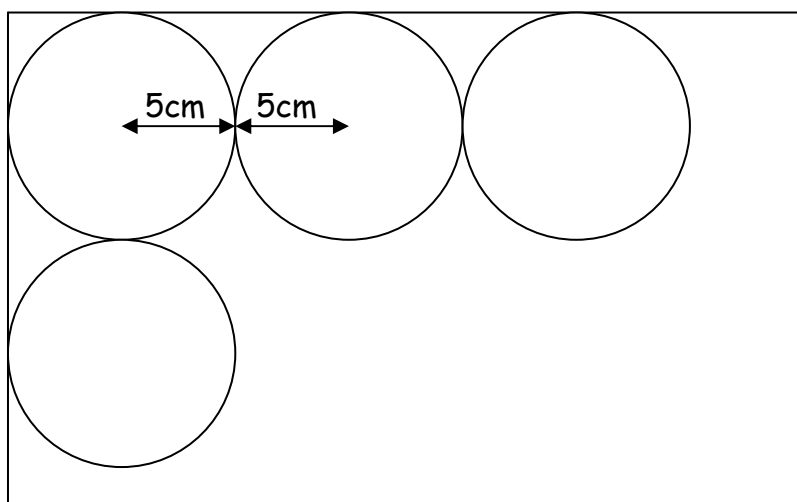


Diagram not to scale

How many cans of paint does the assistant put on an empty stand to fill one layer?

- A 25
- B 40
- C 64
- D 160

- 9 A party of managers fly to Australia.
The first part of their flight is to Singapore. Here is the flight information.

FLIGHT NUMBER	DEPART LONDON (LONDON TIME)	ARRIVE SINGAPORE (SINGAPORE TIME)
SQ324	0135	2325

The time in Singapore is 8 hours **ahead** of London.
How long does the flight take?

- A 9 hours 35 minutes
 B 13 hours 50 minutes
 C 14 hours 50 minutes
 D 15 hours 25 minutes
- 10 One of the managers visits a group of caves at the weekend.
The plan shows four caves with their heights above sea level in brackets.

Cave Plan

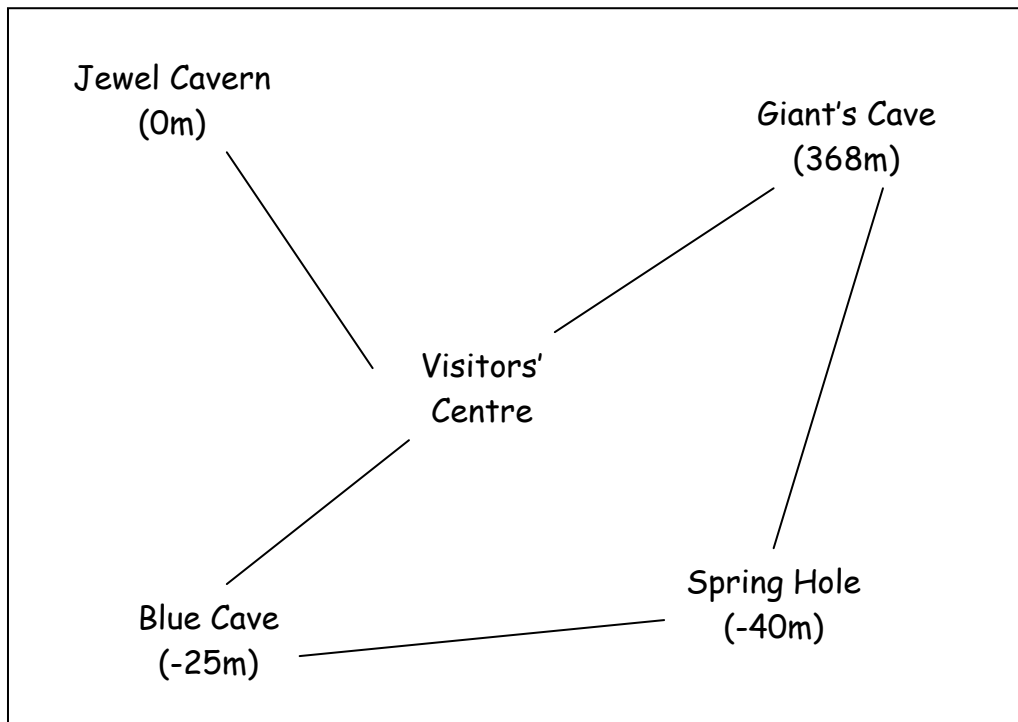


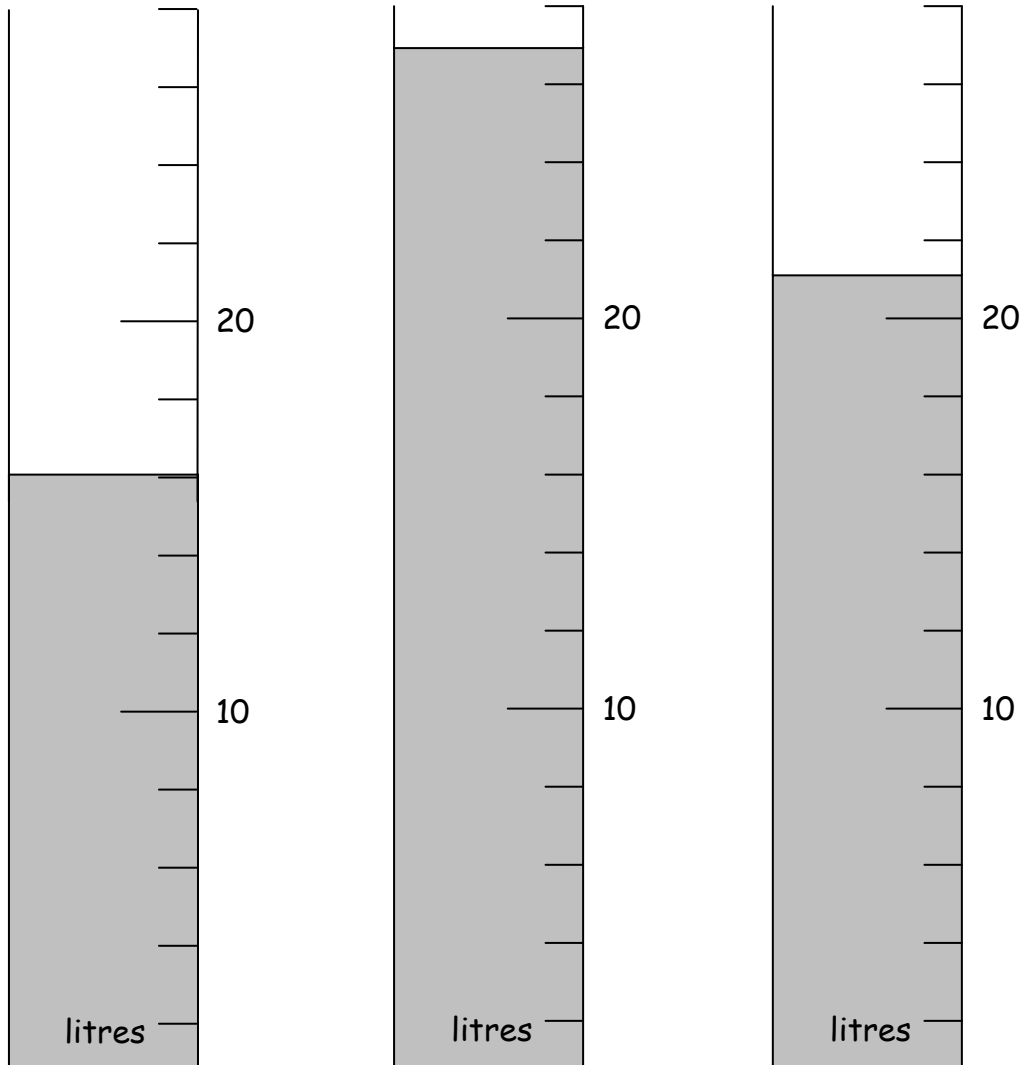
Diagram not to scale

The manager starts at Spring Hole and then goes on to Giant's Cave.

How much higher or lower is Giant's Cave compared to Spring Hole?

- A 328m lower
 B 328m higher
 C 408m lower
 D 408m higher

11 A production engineer in a soup factory checks the level of soup in three filling machines.



Machine 1

Machine 2

Machine 3

What is the total volume of soup in the three filling machines?

- A 57 litres
- B 58 litres
- C 63 litres
- D 64 litres

Questions 12 and 13 are about light bulbs.

The table below compares a standard 100-watt bulb with a low energy bulb giving the same amount of light.

Type of bulb	Cost of bulb	One unit of electricity lights the bulb for	One bulb lasts for
Low energy	£2.50	50 hours	5000 hours
Standard	31p	10 hours	1000 hours

12 A woman compares the two types of bulb.
Compared with standard bulbs, low energy bulbs last

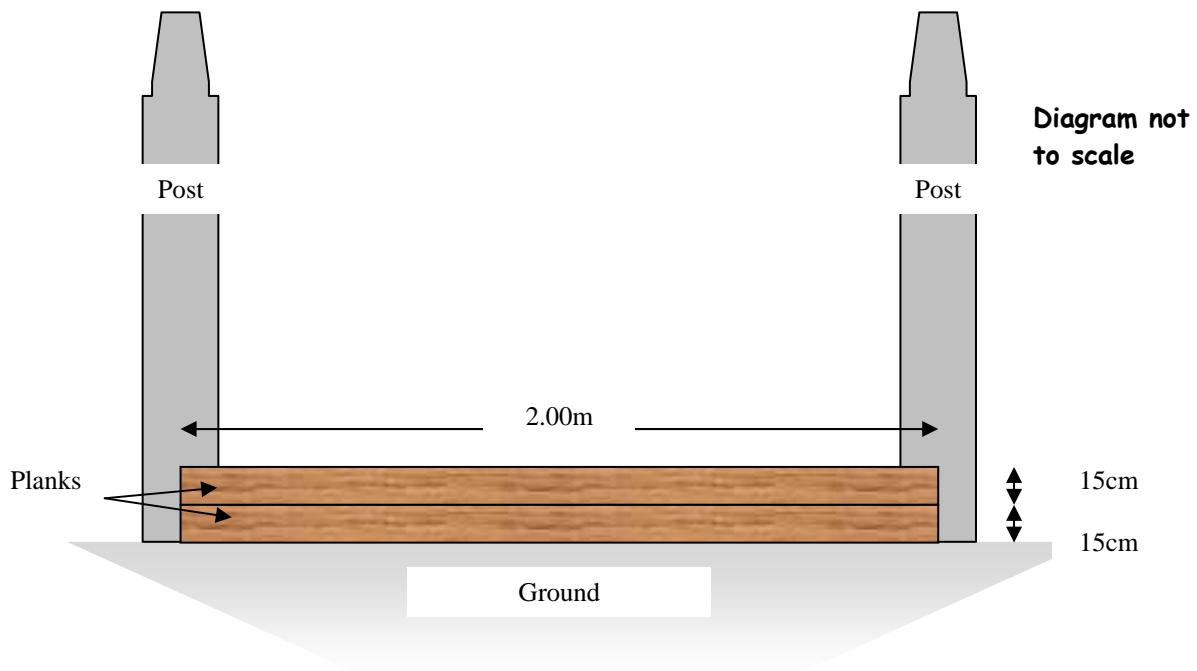
- A $\frac{1}{8}$ as long
- B $\frac{1}{5}$ as long
- C 5 times as long
- D 8 times as long

13 Electricity costs seven pence per unit.
What is the total cost of buying one low energy bulb and using it for 5 000 hours?

- A £7.00
- B £9.50
- C £37.50
- D £72.50

- 14** The designer of a garden centre plans to put up a fence using planks that measure 15 centimetres by 2.00 metres.

Diagram of part of the fence



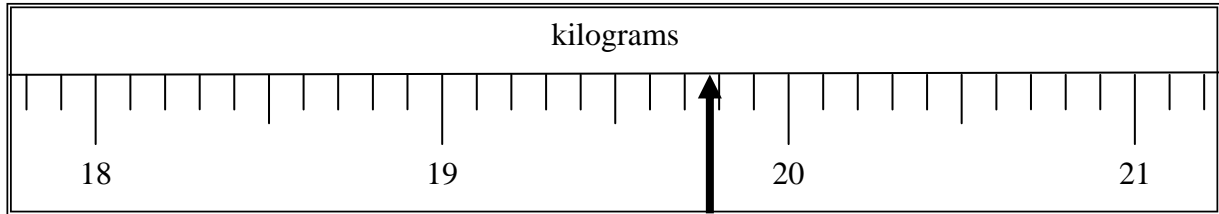
The fence will be 6.00 metres long and 1.20 metres high.

How many planks will the designer use to make the 6.00 metres of fence?

- A** 8
- B** 16
- C** 24
- D** 48

Questions 15 to 17 are about a cycling tour by three friends

15 Before the friends set out, one of them checks the weight of his luggage.
The diagram below shows the reading on the scale.



The friend removes some of the luggage so that he carries only 18 kilograms.

How much does he remove, to the **nearest 100 grams**?

- A 1.7kg
- B 1.75kg
- C 1.8kg
- D 2.0kg

16 The table shows the distances in miles between some of the places they cycle to.

Bridges					
6	Church Stretton				
16	16	Clun			
23	15	17	Ludlow		
14	14	28	29	Shrewsbury	
13	7	20	19	18	Wilderhope

The friends cycle between the different places in this order:

- stage 1** : Shrewsbury to Bridges
- stage 2** : Bridges to Clun
- stage 3** : Clun to Ludlow

What is the total number of miles for the three stages?

- A 41 miles
- B 47 miles
- C 52 miles
- D 64 miles

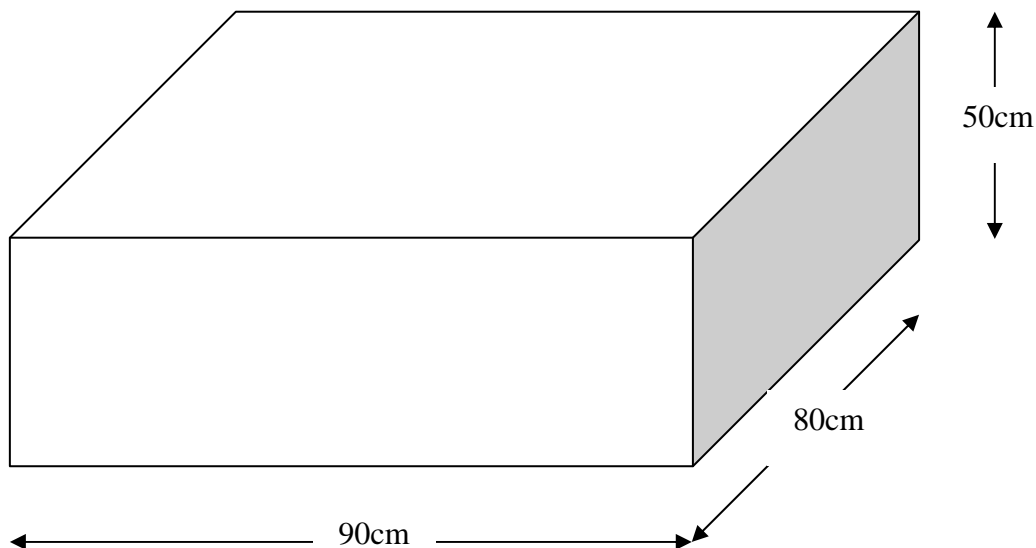
- 17** The friends stay at hostels.
The list shows the charges per person per night at the hostels.

Hostel	Charge per person per night
Bridges	£6.50
Clun	£7.00
Ludlow	£8.25

The friends stay one night at Bridges, one night at Clun, and **two** nights at Ludlow.

What are the **total** charges for **all three** friends?

- A** £87.00
B £87.75
C £89.25
D £90.00
- 18** A worker packs boxes of candles into cartons.
 Each box is 15 centimetres long, 10 centimetres wide and 5 centimetres high.
 The cartons measure 90 centimetres long, 80 centimetres wide, and 50 centimetres high.



What is the maximum number of boxes that fit into a carton?

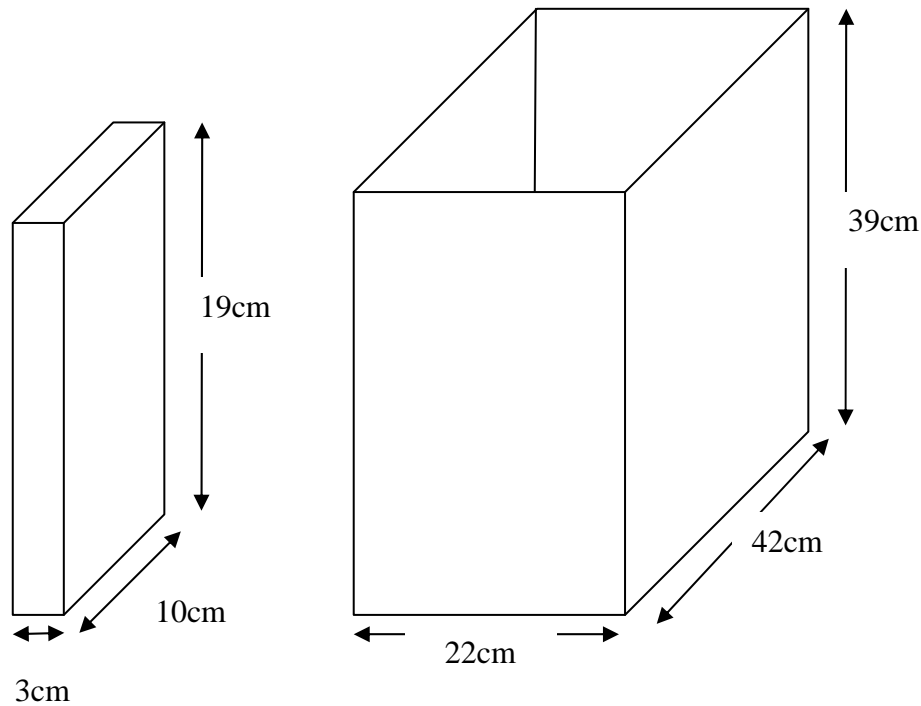
- A** 24
B 48
C 140
D 480

19 Videos are delivered to a store packed in cases.

The dimensions of the video cases are
3 centimetres by 10 centimetres by 19 centimetres.

Video case

Storage box



**Diagrams
not to scale**

To save space these cases are then packed into storage boxes.

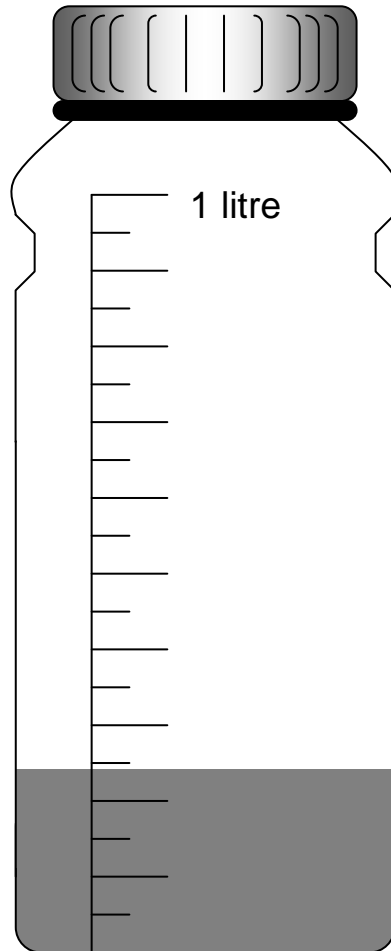
The dimensions of the storage boxes are 22 centimetres by 42 centimetres by 39 centimetres.

The maximum number of videos that fit in the storage boxes is

- A 28
- B 30
- C 56
- D 63

20 A cyclist makes an energy drink from concentrate.

The diagram shows the amount of concentrate he pours into his bottle.



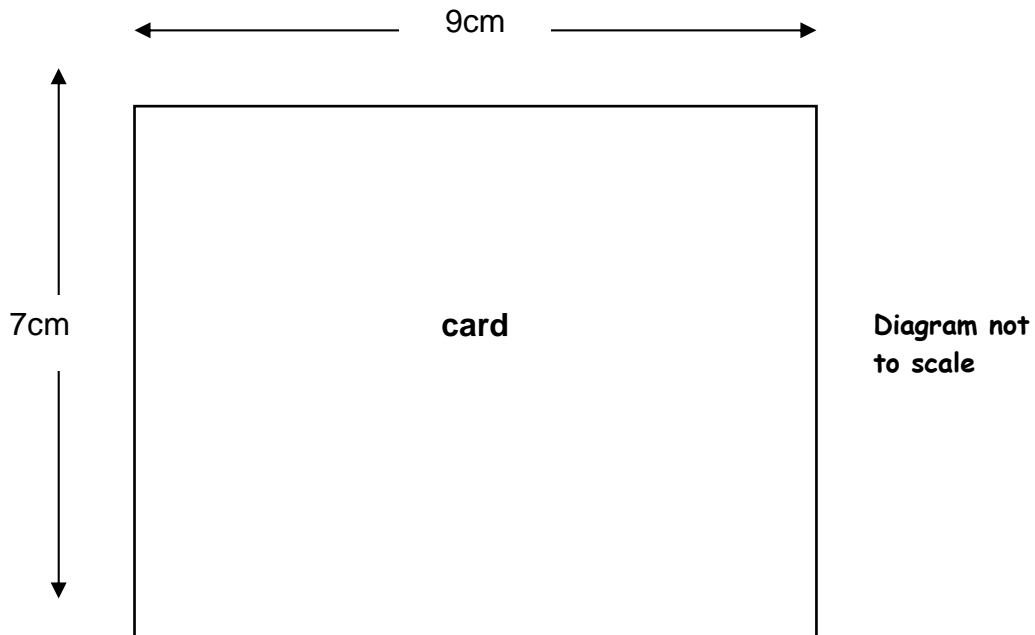
How much concentrate is in the bottle, to the **nearest 50 millilitres**?

- A** 200ml
- B** 250ml
- C** 450ml
- D** 500ml

- 21** Staff at a leisure centre decided to have an advertising board, for people to exchange equipment.

A rectangular notice board is fixed to a wall. The space for cards is 60 centimetres wide and 40 centimetres high.

The centre staff put advertisement cards on it this way up.



What is the maximum number of cards that they can fit into the notice board without any overlapping?

- A 30
- B 35
- C 36
- D 42