

N

NUMBER 2

- * 1 Evan is replacing some fencing. He buys the following items. The cost of each item is also given.

4 fence panels	£12.99 each
5 posts	£7.50 each
2 packets of screws	£3.85 each

Evan pays with five £20 notes. How much change will he get?

- * 2



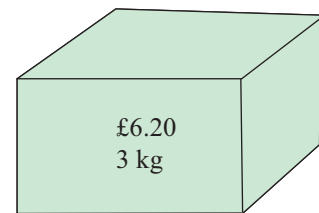
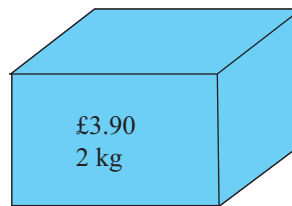
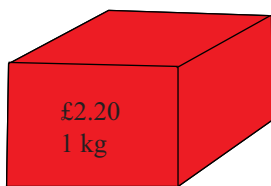
Brianna makes cakes for a tea shop. She uses $\frac{2}{5}$ kg of sugar for each cake. Brianna buys the sugar in 5 kg bags.

How much cakes can Brianna make with the sugar from one 5 kg bag?

- * 3 Anya earns £560 each week. She works very hard so on 8th March she is given a 4% pay rise. On the 7th May she is paid a bonus of £850. How much does Anya earn in total between 8th March and 23rd May?



- * 9 Ella wants to buy 3 kg of cherries.
The local shop sells cherries in 3 different sizes.



What is the cheapest way of Ella buying 3 kg of cherries?
Show all your working out.

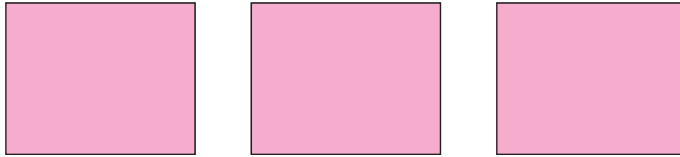
- * 10 Cole owns an i-phone.
He pays a monthly contract of £35 as
set out below:

£35 plan
includes: 500 minutes phone calls Unlimited texts
Each extra minute phone call: 21.5 p



In April, Cole makes 628 minutes of phone calls and 802 texts.
How much does Cole have to pay for his i-phone at the end of April?

- * 4 Luis has 3 cards each with a positive whole number written on it.



The median of the three numbers is 4.

The mean of the three numbers is 5.

- (a) Work out the three numbers on the cards.
 (b) There are four possible answers to part (a).

Find all four possible sets of numbers.

- * 5 Madelyn wants to find out how much time people spend watching the Olympics when the Games are being staged. She needs to design a questionnaire. Make up a suitable question for Madelyn's questionnaire.



- * 6 Thirteen people went out to collect money for the charity 'Food Aid'. Fifteen people collected money for the charity 'Save the Whales'. The total amount collected by each person is shown in the back-to-back stem and leaf diagram.

Food Aid		Save the Whales
9 3	2	4 6
8 6 6	3	2 2 4 7 8
5 2	4	1 6 9
4 4 3	5	4
1	6	7 8
7 4	7	2 2

Key 5|4 = £45

Key 4|6 = £46

The Food Aid people need to raise at least £600 to help a village in Africa. Do they collect enough money? You must show all your working out.

M

MIXED 5

- * 1 Copy and complete this bill.

NORTON'S CHINA SHOP			
Number of items	Item	Cost of one item	Total
4	Cup	£8.50	£_____
5	Plate	£14.65	£73.25
3	Dish	£15.85	£_____
2	Bowl	£_____	£54.40
Total			£_____
VAT at 20%			£_____
Total bill			£_____

- * 2 Two groups of people were asked what they were most frightened of. The findings are shown below.

GROUP A	40 people
$\frac{1}{5}$ of the people said 'spiders'	
$\frac{3}{8}$ of the people said 'rats'	
The other people said 'closed spaces'	

GROUP B	72 people
$\frac{1}{3}$ of the people said 'heights'	
$\frac{2}{9}$ of the people said 'rats'	
$\frac{1}{6}$ of the people said 'closed spaces'	
The other people said 'spiders'	



Find the total number of people from both groups who said that they were most frightened of closed spaces?

- * 4 The Taylor family are in the USA. The whole family want to spend 2 hours swimming with dolphins at the Marine Centre in Florida. The prices are shown below.

THE MARINE CENTRE	
One hour swim with dolphins	
Adult	\$54
Child	\$39
Family ticket (2 adults and 2 children)	\$160



The Taylor family consist of 2 adults and 4 children.

What is the least amount of money they will spend for their swim?

- * 5 Payton drives from Glastonbury to Moreton-in-Marsh and back again. The reading on her speedometer before and after is shown below.

Before	57874	After	58060
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Her car does 31 miles on one gallon of petrol. The cost of petrol is shown below.



How much does it cost Payton to drive from Glastonbury to Moreton-in-Marsh and back again?

- * 3 Mr. and Mrs. Jenkins stay at the Melton hotel for a short holiday. They go on a Monday and stay for four nights in a double room.

They have evening dinner in the hotel on Monday and Wednesday only.

MELTON HOTEL	
	room cost per night
double room (Mon – Thu)	£130
double room (Fri – Sun)	£150
single room (Mon – Thu)	£105
single room (Fri – Sun)	£115
evening dinner £28.50 per person	

Mr. and Mrs. Jenkins get a 15% discount on the rooms only by booking the holiday through the Starlight Travel Company. How much do they pay in total for the room and evening dinners?

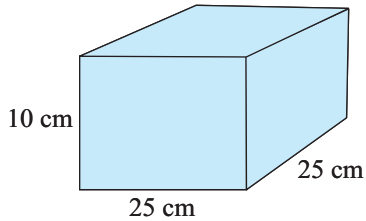
- * 4 Carlos wants to build a wall. He needs to buy 480 bricks. He finds three deals on the internet.

Deal 1	Deal 2	Deal 3
£26 for a box of 32 bricks	£17 for a box of 16 bricks	£70 for a box of 80 bricks
	Buy 5 boxes and get one extra box free	10% discount on 5 or more boxes

Which deal will cost Carlos the least money?
Explain your reasons fully.

- * 4 The cardboard box opposite measures $100\text{ cm} \times 75\text{ cm} \times 55\text{ cm}$.

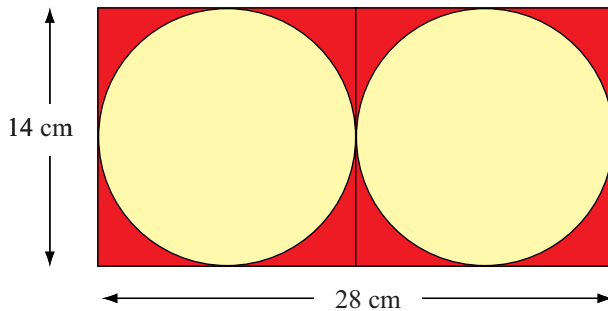
Julian has 80 packets with the dimensions $25\text{ cm} \times 25\text{ cm} \times 10\text{ cm}$.



Julian puts as many packets as possible into the cardboard box and seals it.

How many packets are left over?

- * 5



This diagram shows two circles, each inside a square.

Calculate the red area.

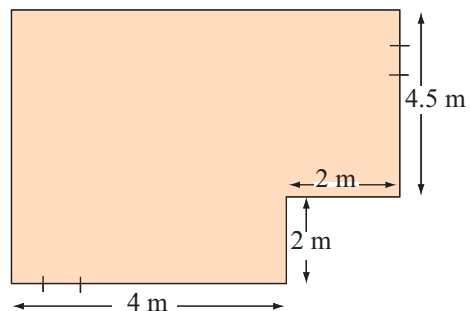
(Give your answer to one decimal place.)

- * 6 This plan is the living room in Vicky's house. There are two doors, each 0.5 m wide.

Vicky wants to put skirting board all around the bottom of each wall.

The cost of the skirting board is shown below. VAT needs to be added to each item at 20%.

1m length	£3
pack of four 1m lengths	£11.50
pack of four 2m lengths	£19



What is the least amount of money Vicky must pay for the skirting board for her living room?

- * 3 Anna has x coloured pencils.
Charles has four times as many pencils as Anna.
Bailey has 3 more pencils than Charles.
They have a total of 30 pencils.
How many pencils does Bailey have?



- * 4 Tom is a student. He lives on a total of £7500 for the year.
45% of the money comes from a student loan.
His parents give him 30% of the money.
He earns the rest of the money by delivering papers and doing bar work in the ratio 9:16.
How much money does he earn from the bar work?

- * 5 Simon works on a building site. He is paid £8.80 per hour for an 8 hour day. He is paid time and a half for working any hours above 8 hours.
On Monday he worked on four houses for the times shown below.

House A: 2 hours 20 minutes

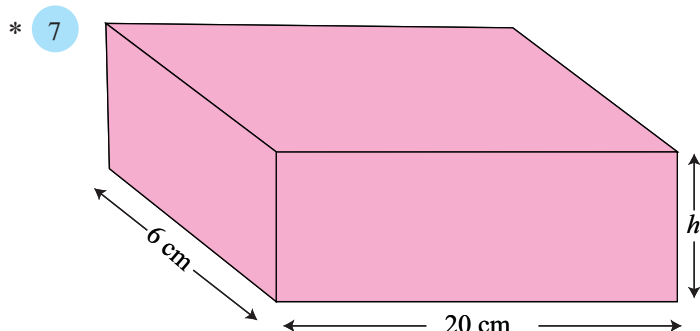
House B: 3 hours 45 minutes

House C: 50 minutes

House D: 2 hours 35 minutes



How much money does Simon earn on Monday?

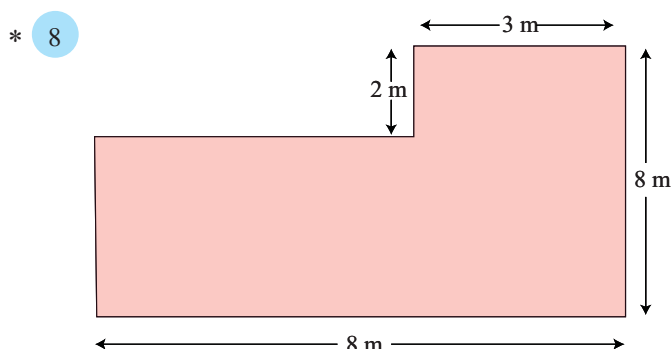


This cuboid has volume 480 cm^3 .

It has length 20 cm, width 6 cm and height h cm.

Work out the total surface area of the cuboid.

Give the answer in cm^2 .



Ayden wants to carpet the room shown above. Any carpet he buys will be 6 m wide. He only wants one line where two pieces of carpet join together. The carpet costs £25 per square metre.

What is the least amount Ayden will have to spend to carpet the entire room?
Explain your working out fully.

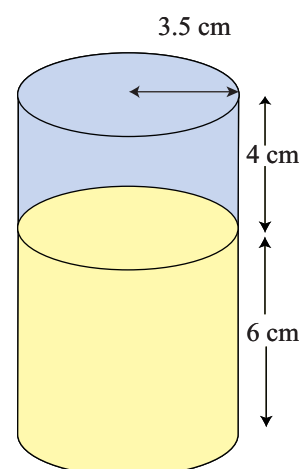
- * 9 A glass in the shape of a cylinder has radius 3.5 cm. It is filled with lemonade to a height of 6 cm.

Carly's parents fill 50 glasses in this way for a party.

They buy the lemonade in one litre bottles.

How many bottles of lemonade do they need?

(Reminder: 1 litre = 1000 cm^3)



- * 8 Ken uses his van to transport furniture. He moves some furniture for Mrs. Thomas and gives her the bill shown below.

10th March		Price per unit	Total	VAT (20%)
2 tables	£15	£30	£6	
4 chairs	£6	£24	£5.20	
1 bed	£20	£20	£4	
1 wardrobe	£18	£18	£3.60	
Total		£92	+	£18.80
		To pay	£110.80	

Mrs Thomas spots a mistake on the bill.
What mistake has been made and what should be the total to pay?

- * 9 Anya has £35 to spend on petrol and a car wash.
Her car travels 9 miles for every one litre of petrol.

Petrol price £1.49 per litre

Anya must put enough petrol into her car to travel 180 miles.
What is the most expensive car wash setting she can afford
from the list below after she has paid for her petrol?
You must show all your working out.

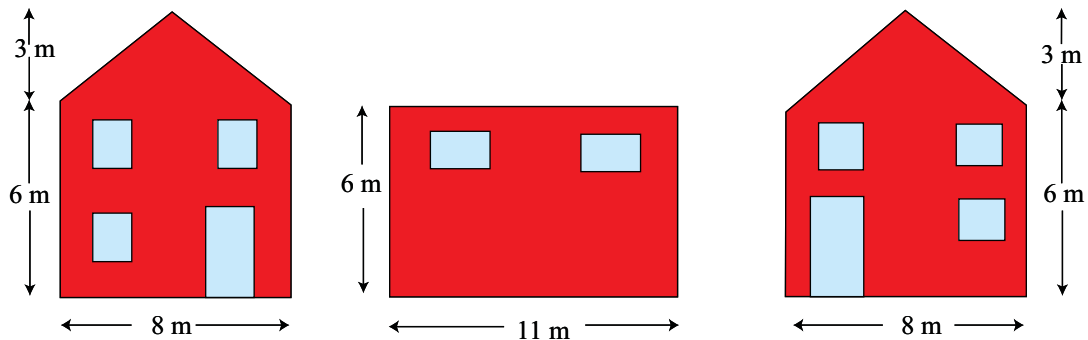
CAR WASH	
Wash	£4.20
Wash including 4 wheel scrub	£4.80
Wash and dry, including 4 wheel scrub	£5.50
Full wash and wax shine	£6.50



- * 4 Mrs Parker wants three sides of her house to be painted. Painter, Carl, offers to do the whole job for £450. Another painter, Helen, offers to do the job for £3 per square metre.

The three sides of the house to be painted are shown below. Each window has area 2 m^2 . Each door has area 2.5 m^2 .

Who should Mrs Parker choose to paint her house so that she spends the least amount of money? How much cheaper is this painter?



* 5

Flavour	Number put on shelf	Number left on shelf
Plain	110	42
Cheese and onion	130	24
Roast chicken	60	9

The manager of a garage is given a target that each week the garage must sell at least $\frac{2}{3}$ of the packets of crisps which are put on the shelf.

The table above shows how many packets of crisps were put on the shelf during one week and how many were not sold.

Did the garage meet the target? Explain your answer fully.

- * 6 The times of sprinters in two 200 m races are recorded.
The results are shown in the back-to-back stem and leaf diagram.

Race A		Race B
	21	8 9
8 7 5	22	2 2 4 7 8 9
9 6 4 2	23	1
3	24	

Key 7|22 means 22.7 seconds

Key 22|8 means 22.8 seconds

Compare fully the times taken in race A with the times taken in race B.

- * 7 90 people are asked what their favourite form of transport is.
The information is shown in the table below.

Form of transport	Frequency
Car	8
Boat	20
Plane	14
Bike	16
Train	25
Other	7



Represent this information in a suitable diagram or chart.