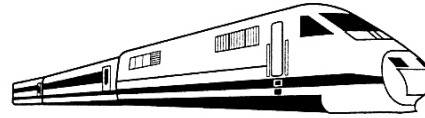


CALCULATOR ALLOWED

- 1 The distance between Verona and Milan is 158 kilometres.

A train takes 1 hour 40 minutes to travel between these cities.



Find the average speed of the train.

2

2. Alice Anderson has a part-time job in a call centre.

Her basic rate of pay is £6.50 per hour.

At weekends she gets paid overtime at time and a half.

Last week she was paid £136.50, which included 4 hours overtime.



How many hours did she work at the basic rate ?

4

3. The number of letters in each of the first one hundred words of a news story were counted.

The results are shown in the table below:

<i>Number of letters</i>	<i>Frequency</i>	<i>Number of letters × frequency</i>
1	5	
2	12	
3	18	
4	26	
5	18	
6	11	
7	7	
8	3	
	Total =	Total =

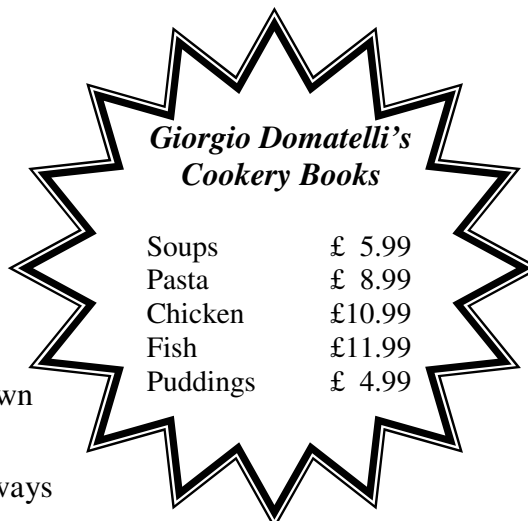
Find the mean number of letters per word.

Give your answer correct to one decimal place.

4

4. Dayna wants to buy cookery books.
She chooses books from the cookery series shown here.

- She wants to spend between £15 and £20
- She does not buy more than one copy of any book.



One way Dayna can choose her books is shown in the table below.

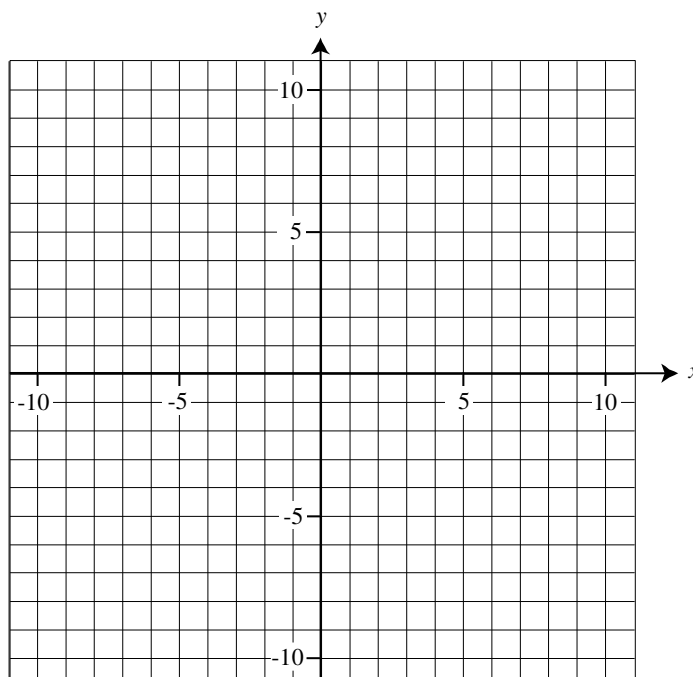
Complete the table to show all the different ways Dayna can choose her books.

Book Title	Book Title	Book Title	Total Cost (£)
Pasta	Chicken		19.98

5. a) Complete the table below for $y = 2x - 1$

x	-4	0	4
y			

b) Use the table in part (a), draw the graph of the line $y = 2x - 1$ on the grid below.



KU	RE
	3
	2
	2

6. Following the arrows, use the instructions below:

Find the path which

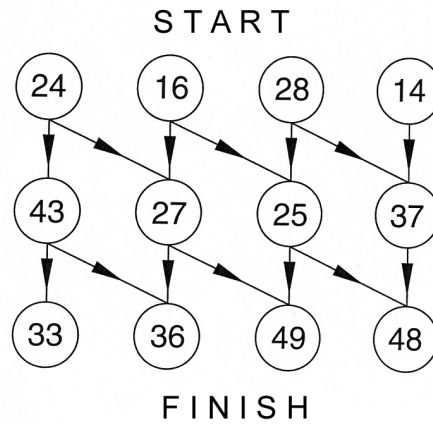
- starts with a multiple of 4
- moves to a prime number
- finishes with a square number

Write your numbers in the boxes below:

First number

Second number

Third number

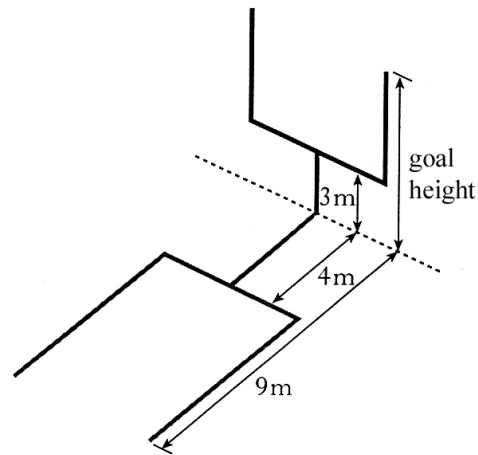


7. The diagram shows the goal in American Football and its shadow.

The post below the crossbar is 3 metres high and casts a shadow 4 metres long.

The total length of the shadow is 9 metres.

Find the total goal height.



8. Alison has started a small business making wax candles.

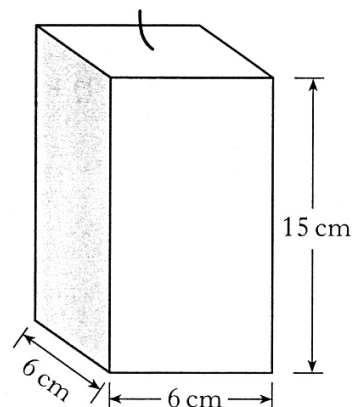
She makes only one size of candle and it is in the shape of a cuboid.

The base of the candle is a square of side 6 centimetres.

The height of the candle is 15 centimetres.

Alison buys her wax in 10 litre tubs.

How many candles can she make from a tub of wax ?



KU	RE
	3
	3
	4

9. a) Multiply out the brackets and collect like terms

$$3(2w+1)+2(8-w)$$

b) Solve the inequality

$$3x-4 < 11$$

10. The cost, c pounds, of a carpet varies directly as its length, l metres.

A carpet of length 5 metres costs £340.

a) What will a carpet of length 8 metres cost ?

b) What length is a carpet which costs £238 ?

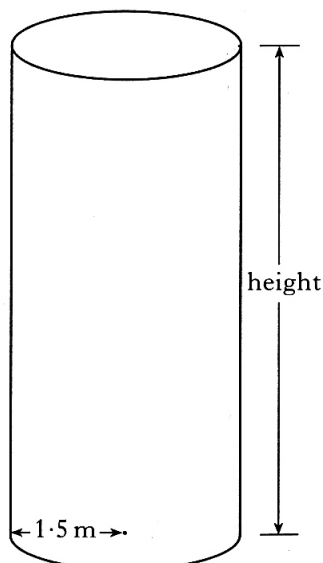
11. An adventure park is installing a climbing wall.

The wall is in the shape of a cylinder to which climbing pegs are attached.

The radius of the cylinder is 1.5 metres

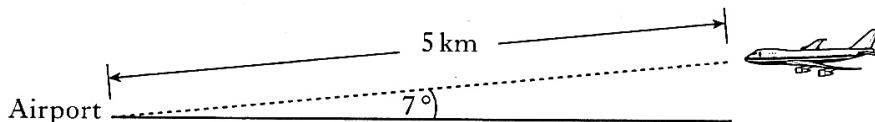
The cylinder has a curved surface area of 75.5 square metres.

What height will the cylinder be ?



KU	RE
3	
2	
3	
	2
	4

12.



An aircraft is approaching Glasgow airport.
 The angle of elevation of the aircraft from the airport is 7° .
 The aircraft is at a distance of 5 km from the airport.
 Find the height of the aircraft, to the nearest metre.
Do not use a scale drawing.

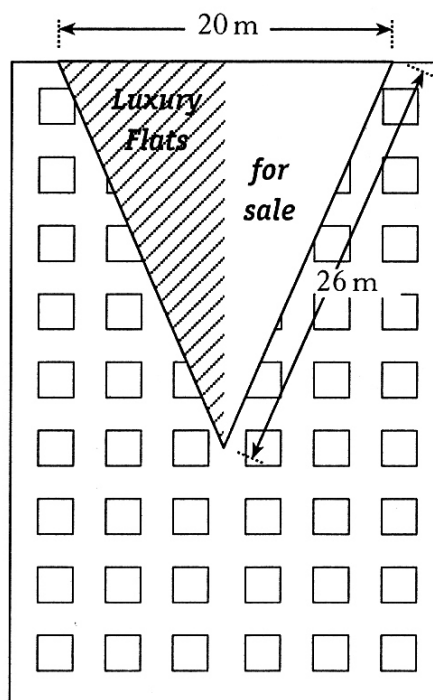
KU RE

4

13. A large advertising banner is hanging from a building.

The banner is an isosceles triangle.
 The top edge of the banner is 20 metres long and each of the other two sides is 26 metres long.

Find the area of the banner.



4

END OF QUESTION PAPER

TOTALS

25

24