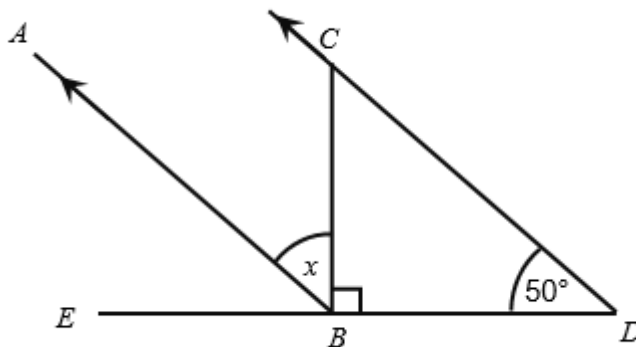




## FA Problem Solving Questions - Set 6c

51c. AB is parallel to CD



Not drawn accurately

Work out the value of  $x$   
Give reasons for your answer.

[3 marks]

52c. The diagram shows a wall in Vicky's living room.

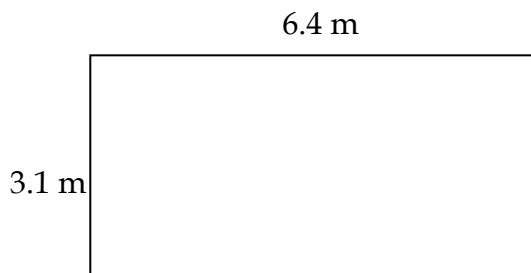


Diagram NOT  
accurately drawn

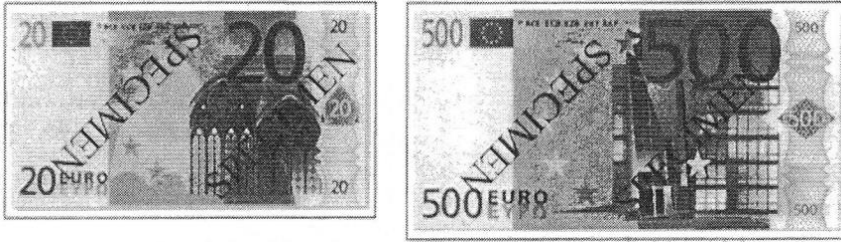
Vicky plans to wallpaper this wall.  
She buys some rolls of wallpaper.

Each roll of wallpaper is 53 cm wide and 12 m long.

Work out what length of wallpaper is unused.  
What percentage of the wallpaper that is bought is used?

(5 marks)

53c.



Pictures **NOT**  
accurately drawn

A 20 Euro note is a rectangle 72 mm wide.

A 500 Euro Note is a rectangle 165 mm long and 82 mm wide.

Calculate the length of the 20 Euro note if the two rectangles are mathematically similar.  
**(3 marks)**

54c. Mrs Collins is organising a school trip.

The ratio of the number of staff to the number of students must be 1 : 18

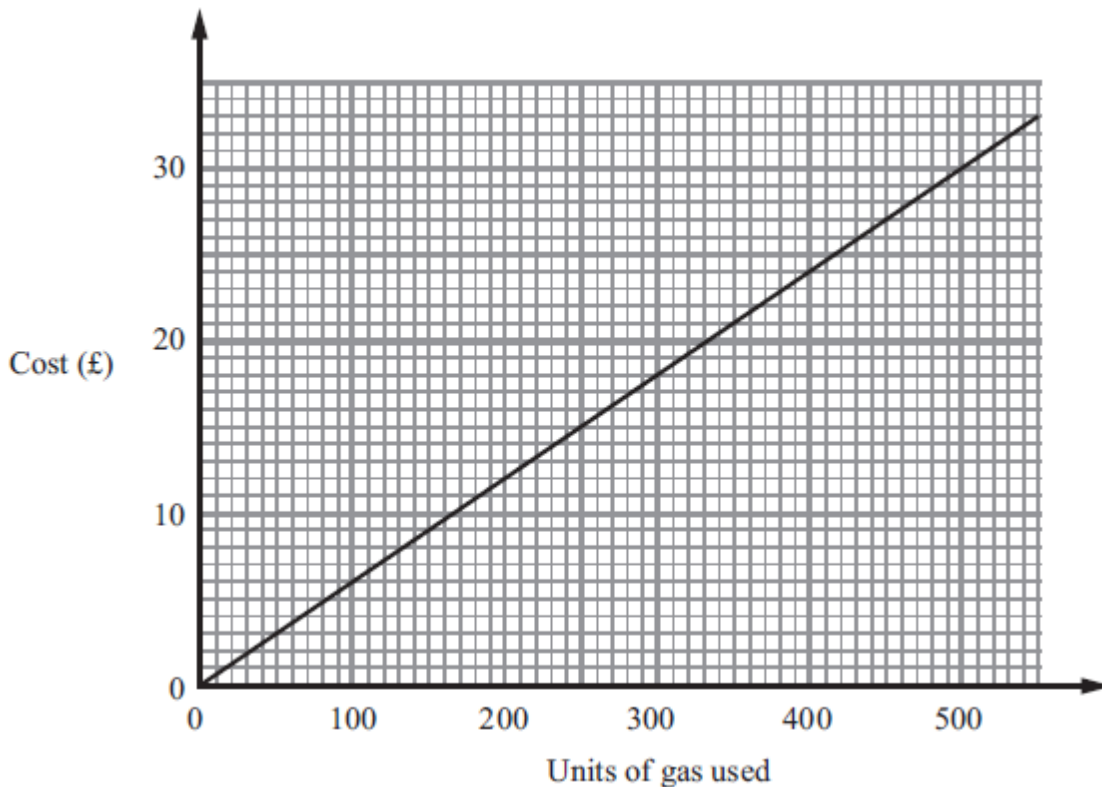
Mrs Collins books five coaches for the trip.  
Each coach has 53 seats.

How many students can be allowed to go on the trip?  
You must show all your working.

**(4 marks)**

55c. A gas company charges the same amount for each unit of gas used.

Karen uses the graph to work out the cost of the gas she has used.



(a) During the 31 days of January Karen uses 2300 units of gas and the gas company also charge 12.5p per day

Work out the total cost of the Gas used by Karen

(4)

(b) Why can't you multiply this bill by 12 to get an estimate for the bill for the year?

(2)

56c. Anna, Bob and Carl share some sweets in the ratio 2:3:5

(a) What percentage of the sweets does Anna get?

(2 marks)

(b) If Bob has 15 sweets then what percentage does Anna have now?

(2 marks)

(c) If Carl has 30 sweets and Anna gives him 6 of hers then what are the ratios now?

(2 marks)

(d) If there are 80 sweets altogether and Bob gives Carl 10 sweets then what % of the sweets does Carl have now?

(2 marks)

57c. 70 students each chose a PE activity.  
They chose one of swimming, athletics or tennis.

10 out of the 37 girls chose swimming.  
17 boys chose athletics.  
19 students chose swimming.  
22 students chose tennis.

One student is selected at random.

Work out the probability that this student is a boy who chose tennis. (4 marks)

58c. Which of these two offers for Bacon is the best value for money?

Pack of 10 Rashers 300g	2 for £4
3 packs of 175g	£3.60

You must show all of your working

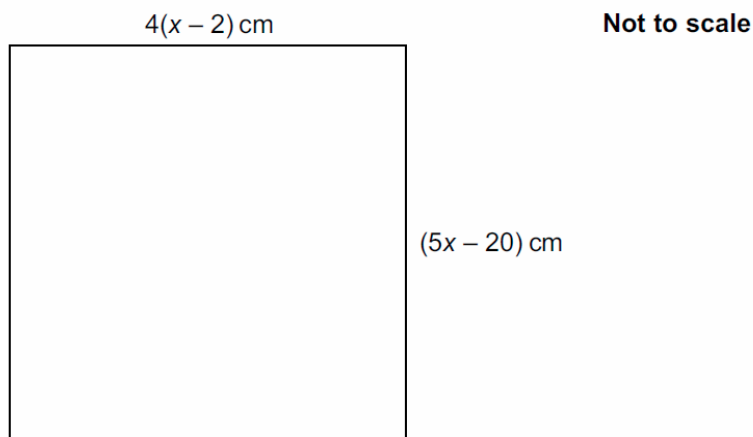
(3 marks)

59c. A train travels for 2hrs 13 min at an average speed of 108 km/h.

- (a) How far does it go in this time?
- (b) How long would it take to travel 200km to the nearest minute?

(4 marks)

60c. Shape A is a rectangle of length  $x$  cm and width 2 cm.



Work out the area of this square.

(3 marks)