

11 Chris is organising a wedding.

- (a) The wedding breakfast is in a hotel.
It costs £400 to hire the room plus £69.95 for each guest.
He can spend a maximum of £5500.

What is the maximum number of guests he can invite to the breakfast?

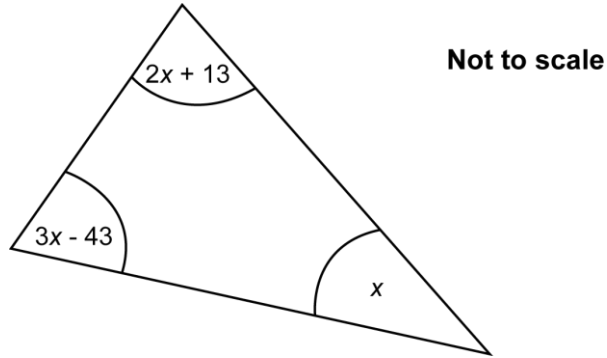
(a).....[3]

- (b) There are 120 people in the evening.
A buffet is ordered for 85% of these people.

For how many people is the buffet ordered?

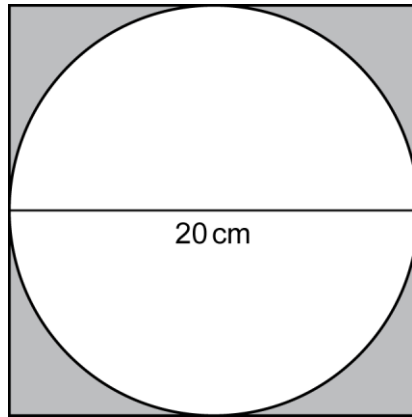
(b).....[2]

12 Calculate the size of each angle of this triangle.



.....°;°;° [5]

- 13 A circle, diameter 20 cm, is drawn inside a square. The four sides of the square touch the circle.



Not to scale

What percentage of the square is shaded?

.....% [5]

- 14 The table below shows an estimate of the population of some countries.

Country	Population
Ecuador	1.60×10^7
Germany	8.12×10^7
Italy	6.07×10^7
Japan	1.27×10^8
Slovenia	2.06×10^6

- (a) Which country has the largest population?

(a) [1]

- (b) Write the population of Italy as an ordinary number.

(b) [1]

- (c) The population of Montserrat is 5000.

Write 5000 in standard form.

(c) [1]

- (d) Complete the following sentence.

The population of is about 5 times the population of

[2]

15 (a) Write 54 as the product of its prime factors.

(a).....[2]

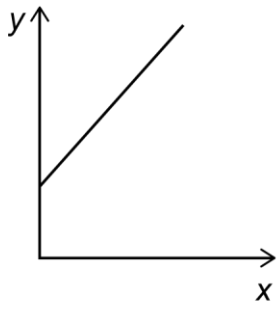
(b) Katy fills some gift boxes.
Each gift box will contain one toy and one keyring.
Katy buys toys in bags of 8.
Katy buys keyrings in bags of 14.

She wants to use all the toys and all the keyrings she buys.

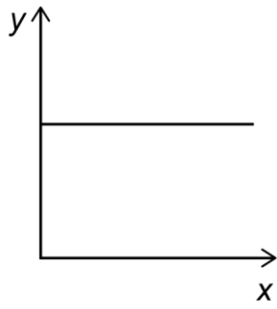
What is the smallest number of gift boxes Katy can fill?

(b).....gift boxes [4]

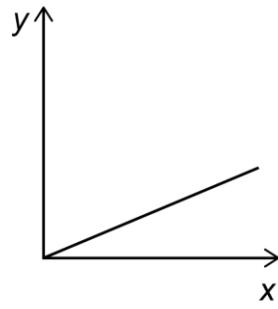
16 (a) Which graph shows that y is directly proportional to x ?



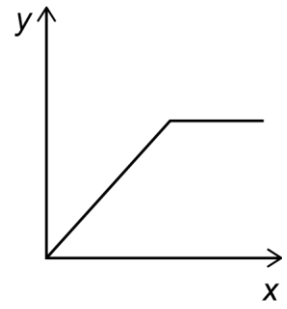
A



B



C



D

(a).....[1]

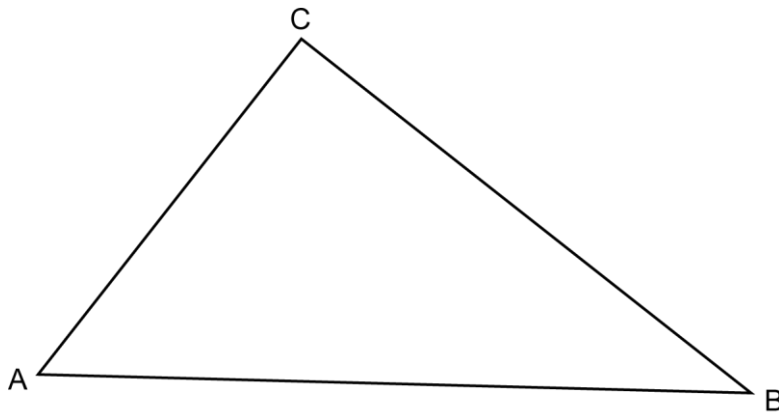
(b) In this table y is directly proportional to x .

x	16	24
y	36	b

Calculate b .

(b).....[2]

17 (a) Triangle ABC is shown below.



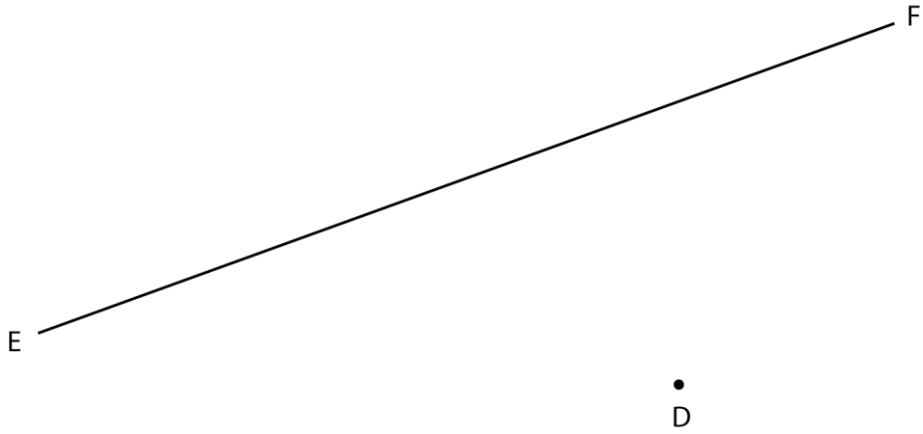
Construct and shade the region within this triangle that is

- nearer to A than to B
- less than 3 cm from C.

Show all your construction lines.

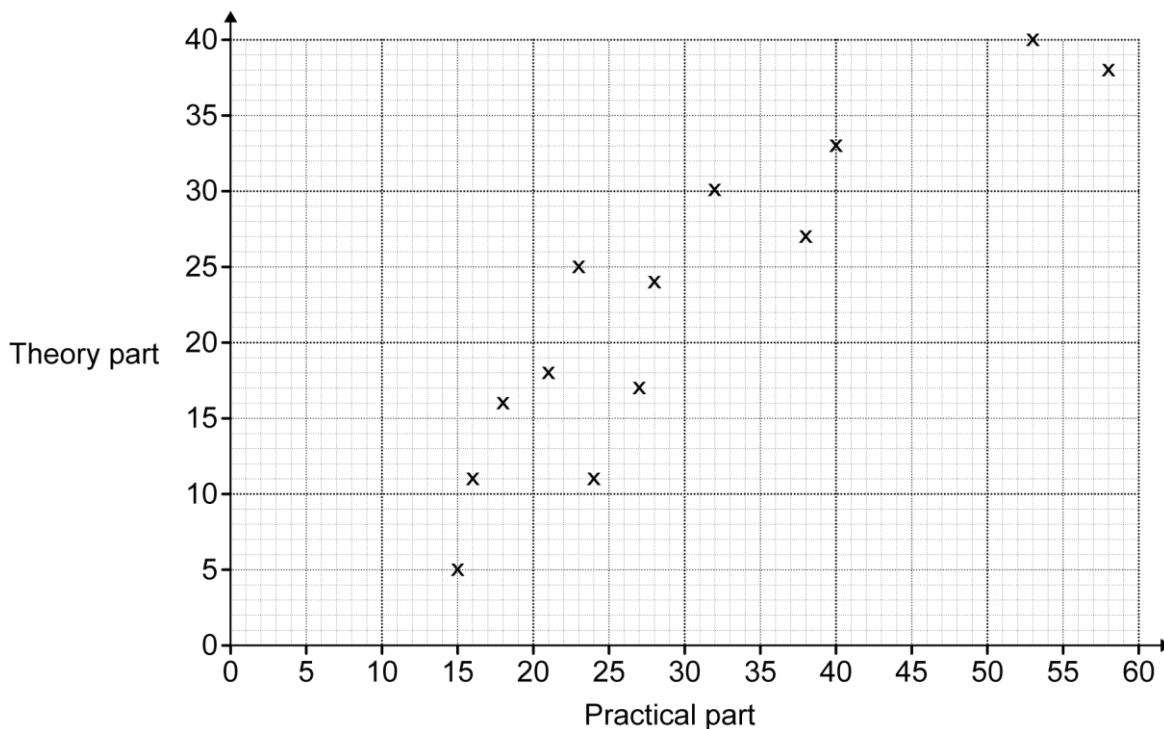
[5]

- (b) Find, by construction, the shortest distance from D to the line EF.
Show all your construction lines.



(b) Shortest distance = cm [3]

18 The scatter diagram shows the results for 13 students in the practical part and the theory part of a test.



(a) The table below shows the results for two more students.

Practical part	50	33
Theory part	34	28

Plot these two results on the scatter diagram.

[1]

(b) The pass marks for the test are 40 in the practical part and 30 in the theory part.

What percentage of the 15 students passed both parts?
Write your answer correct to the nearest whole number.

(b).....% [4]

(c) (i) Draw a line of best fit on the scatter diagram. [1]

(ii) Hannah scored 48 in the practical part, but missed the theory part.

Estimate a score for Hannah in the theory part.

(c)(ii)..... [1]

(iii) Explain why your answer to part (ii) may not be correct.

.....

..... [1]

19 Three apples and two bananas cost 75p.
Four apples and one banana cost 80p.

Find the price of one apple and the price of one banana.

Apple =..... p

Banana =..... p

[4]

20 A pattern of six coloured tiles is shown below.

Red	Red	Blue
Grey	Blue	Blue

Each tile is a square of side 10 cm.

(a) Ngaio has a rectangular wall, 2.4 m high and 2.7 m long. She wants to repeat this pattern over her wall.

How many tiles of each colour does she need?

(a) red tiles
 blue tiles
 grey tiles
[4]

(b) Geoff has a rectangular wall, 2.4 m high and 3.7 m long. He wants to use the same pattern.

Geoff says

I cannot use whole patterns to completely cover my wall.

Explain why Geoff is correct.

.....
 **[2]**

21 The table below shows the number of texts Natalie sent each day over a period of 75 days.

Number of texts	Frequency		
0 – 4	12		
5 – 9	15		
10 – 14	8		
15 – 19	24		
20 – 24	16		

(a) Calculate an estimate of the mean of these data.

(a).....[4]

(b) Explain why your answer is an estimate.

.....
[1]

END OF QUESTION PAPER

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