

Name: _____

GCSE Foundation
Set B
Non - Calculator Paper



Corbettmaths

Equipment

1. A blue or black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.

Guidance

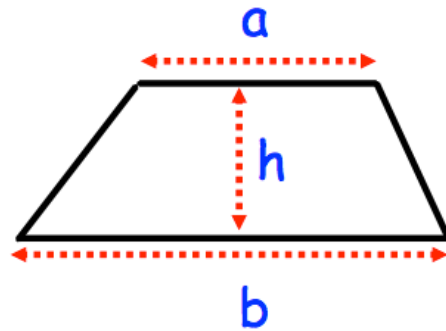
1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Information

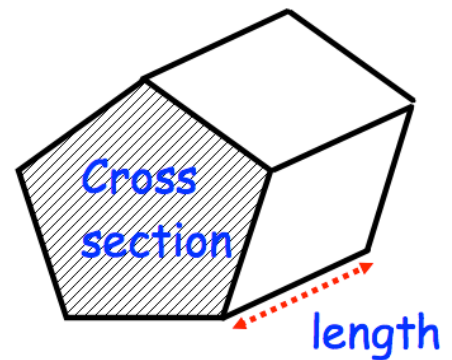
1. The maximum mark for this paper is 100.
2. The marks for questions are shown in brackets
3. You may ask for more lined, graph or tracing paper.

Question	Mark	Available
1		3
2		4
3		3
4		4
5		3
6		1
7		3
8		2
9		2
10		6
11		4
12		4
13		6
14		7
15		1
16		6
17		4
18		3
19		4
20		4
21		3
22		3
23		3
24		3
25		2
26		4
27		2
28		6
Total		100

Area of a Trapezium = $\frac{1}{2}(a + b)h$



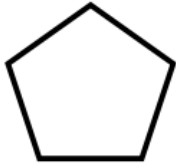
Volume of a prism = area of cross section x length



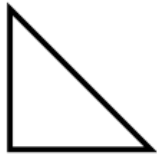
1. The names of five shapes are given.

pentagon triangle hexagon kite rectangle

Three of them are drawn below.



A



B



C

Complete these statements.

Shape A is called a

Shape B is called a

Shape C is called a

(3)

2. 39 people were on a bus.

13 people got off the bus.

18 people got on the bus.

(a) How many people are there now on the bus?



.....
(2)

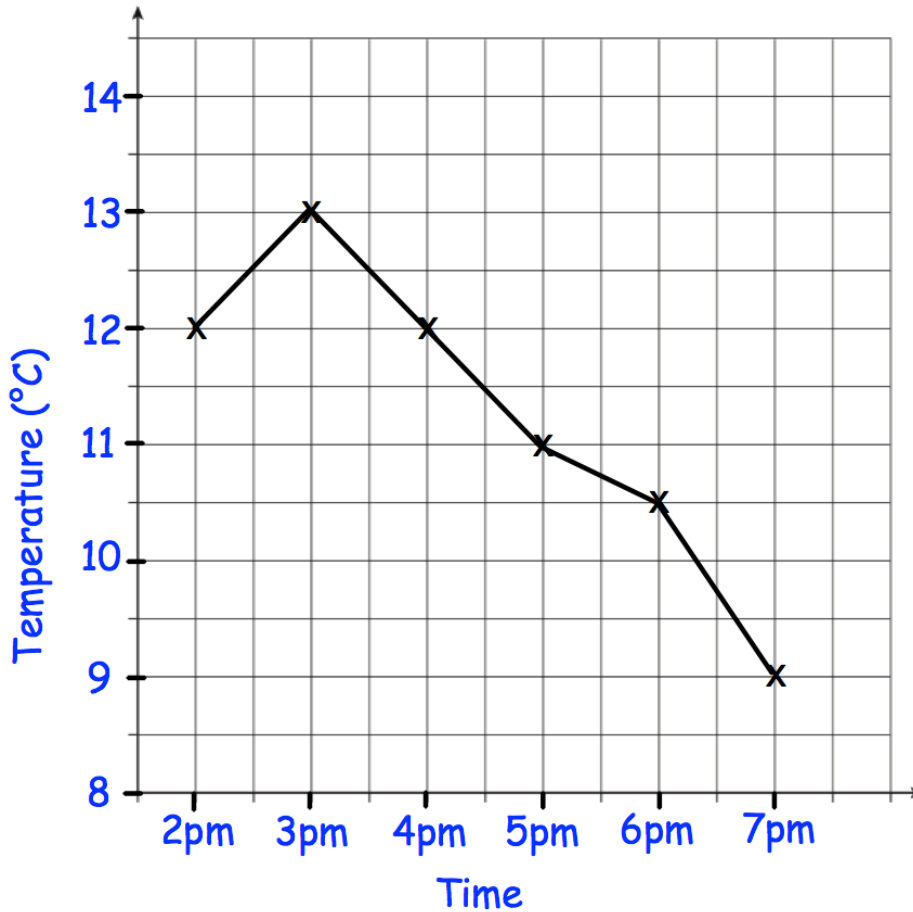
There were 28 people at the next bus stop.

$\frac{1}{4}$ of these people are men.

(b) What is $\frac{1}{4}$ of 28?

.....
(2)

3.



Jessica recorded the temperature outside one day.
The diagram shows information about her results.

(a) What was the temperature at 7pm?

.....°C
(1)

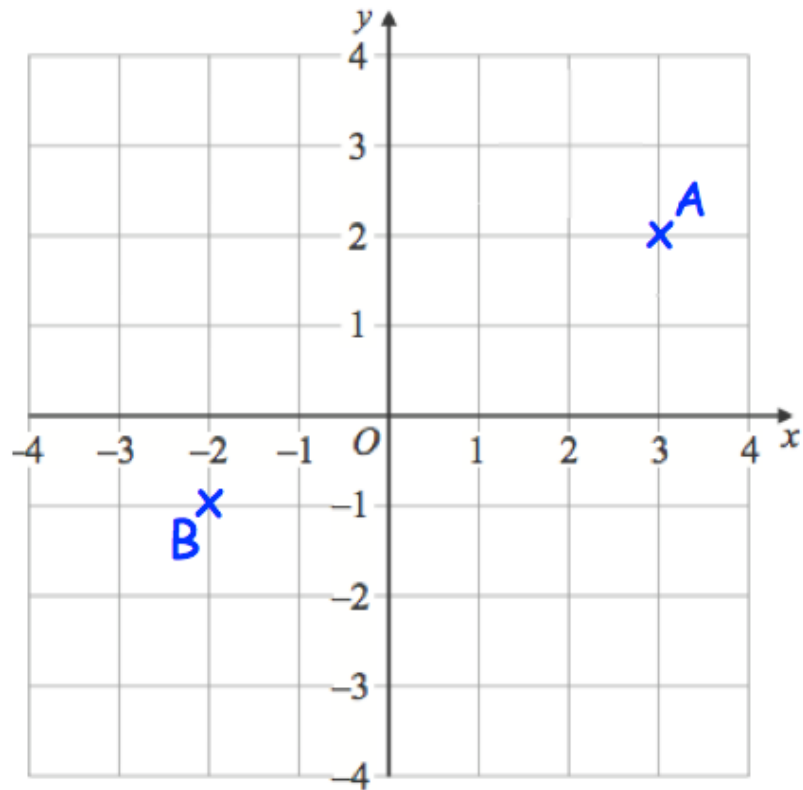
(b) At what time was the highest temperature recorded?

.....
(1)

(c) At what time was the temperature of 10.5 °C recorded?

.....
(1)

4.



(a) Write down the coordinates of the point A.

(..... ,)
(1)

(b) Write down the coordinates of the point B.

(..... ,)
(1)

(c) Plot the point (0, 2). Label the point C.

(1)

(d) Plot the point (-3, 1). Label the point D.

(1)

5. (a) Write the following numbers in order of size.
Start with the smallest number.

29 33 19 13 41

.....
(1)

- (b) Write the following temperatures in order of size.
Start with the lowest temperature.

5°C -4°C -8°C 3°C -1°C

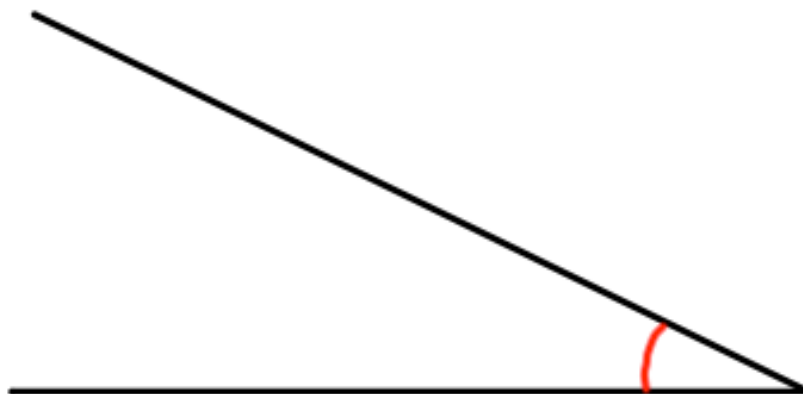
.....
(1)

- (c) Write the following numbers in order of size.
Start with the smallest number.

0.41 0.405 0.4 0.43 0.426

.....
(1)

6.



Measure the angle shown above.

.....^o
(1)

7. (a) Work out $5 \times 2 + 3$

.....
(1)

(b) Work out $20 - 5 \times 2$

.....
(1)

(c) Work out $40 \div (4 \times 2)$

.....
(1)

8. (a) Change 2.5 metres to centimetres

.....cm
(1)

(b) Change 8 kilometres to metres

.....m
(1)

9. A chocolate bar costs 68p.
Andrew buys 4 chocolate bars.

How much change should he receive from £5?

£.....
(2)

10. Complete the table.

Fraction	Decimal	Percentage
$\frac{4}{5}$		
		17%
	0.35	

(6)

11. Work out

(a) -5×6

.....
(1)

(b) $-24 \div -3$

.....
(1)

(c) $-8 + 3$

.....
(1)

(d) $-6 + -3$

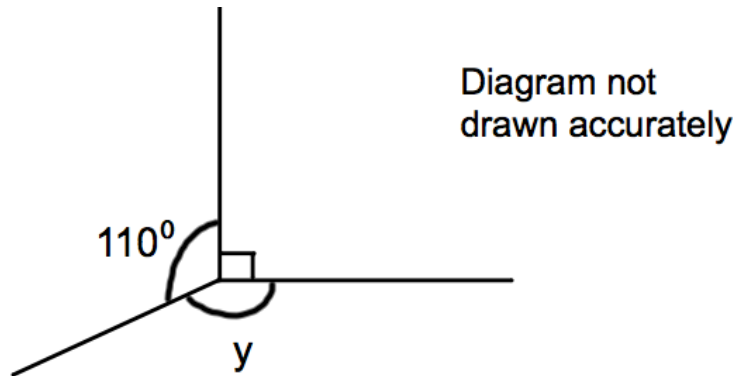
.....
(1)

(e) $(-14)^2$

.....
(1)

12.

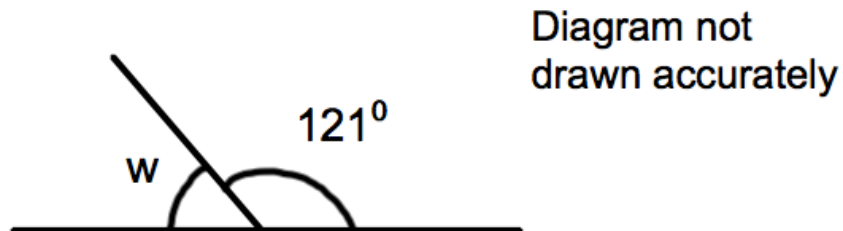
The diagram below shows three angles that meet at a point.



(a) Work out the size of the angle marked y .

.....^o
(1)

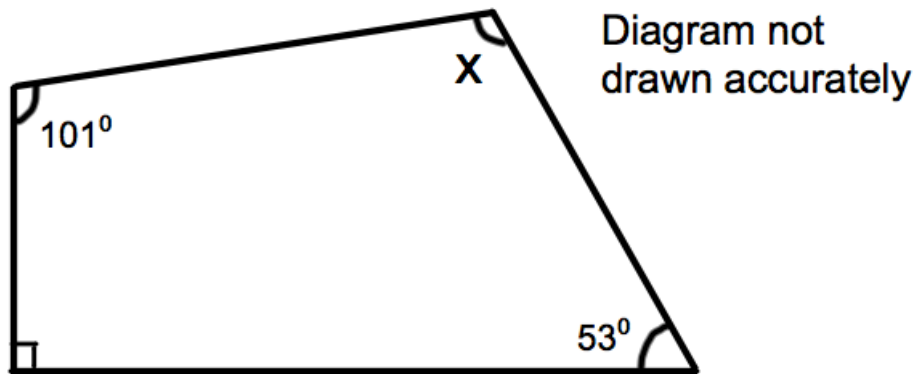
The diagram below shows a straight line.



(b) Work out the size of the angle marked w .

.....^o
(1)

Shown below is a quadrilateral.



(c) Work out the size of the angle marked x.

.....^o
(2)

13.

(a) Work out

$$\frac{7}{11} + \frac{2}{3}$$

.....
(2)

(b) Work out

$$\frac{7}{11} \times \frac{2}{3}$$

.....
(2)

(c) Work out

$$\frac{7}{11} \div \frac{2}{3}$$

.....
(2)

14. (a) Simplify $8w - w$

.....
(1)

(b) Simplify $6a + 5b - 2a + 3b$

.....
(2)

(c) Expand $5(w + 4)$

.....
(1)

(d) Expand and simplify $8(2w + 1) - 2(2w - 3)$

.....
(3)

15. Write down the reciprocal of 4.

.....
(1)

16. (a) In a cinema the seats are arranged in rows.
Each row has 29 seats and there are 21 rows.

Estimate the number of seats in the cinema.

.....seats
(2)

- (b) A camera stores 306 photographs.
A machine charges 11p per print for the photographs.

Estimate the cost to print out all the photographs.

£.....
(2)

- (c) The width of a mathematics textbook is 3.9 centimetres
A shelf is 0.98 metres long.

Estimate the number of textbooks that can fit onto the shelf.

.....textbooks
(2)

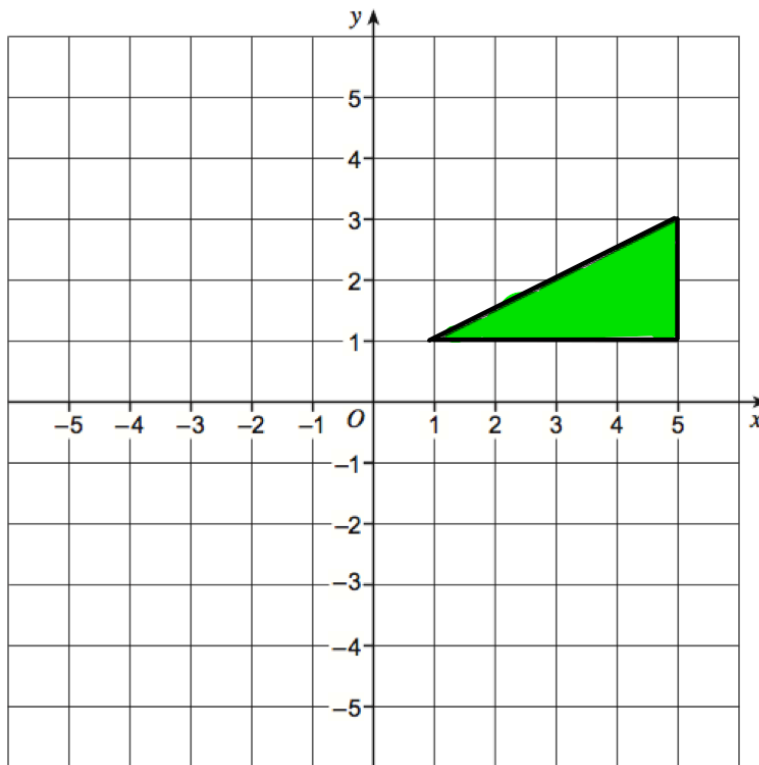
17. Bethany organises a raffle to raise money for charity.
400 people each buy a ticket for a prize draw.
Each ticket costs 25p.

The probability of winning a prize of £5 is 0.01
The probability of winning a prize of 50p is 0.1

How much money will the raffle raise for charity?

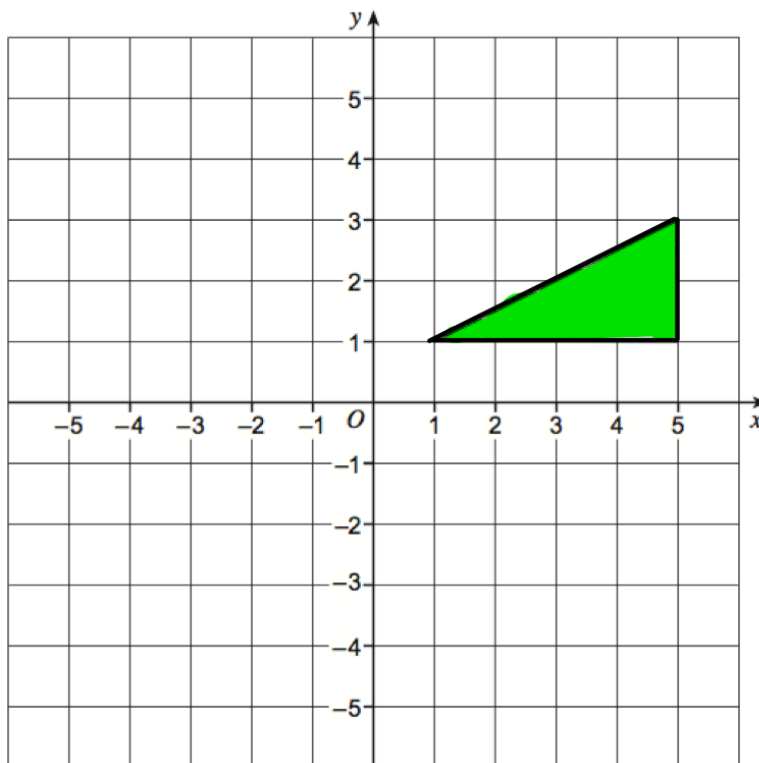
.....
(4)

18. (a) Reflect the triangle in the y-axis.



(1)

(b) Rotate the triangle through 90° anticlockwise about the origin.



(2)

19. The n th term of a number sequence is given by $5n + 2$

(a) Work out the first three terms of the number sequence.

1st term, 2nd term, 3rd term
(2)

Here are the first five terms of another number sequence.

5 11 17 23 29

(b) Find, in terms of n , an expression for the n th term of this sequence.

.....
(2)

20. A company is hosting a charity meal.
800 people work for the company.
It is estimated 70% of the employees will attend.
It is expected that if an employee attends, they will bring a partner.
The cost of attending the meal is £5.

How much money will be raised for charity?

£.....
(4)

21. The manager of a cinema wants to find out how often people go to the cinema.
She uses this question on a questionnaire.

How often do you go to cinema, a month?

- A lot
- Often
- Many times

(a) Write down what is wrong about this question.

.....

.....

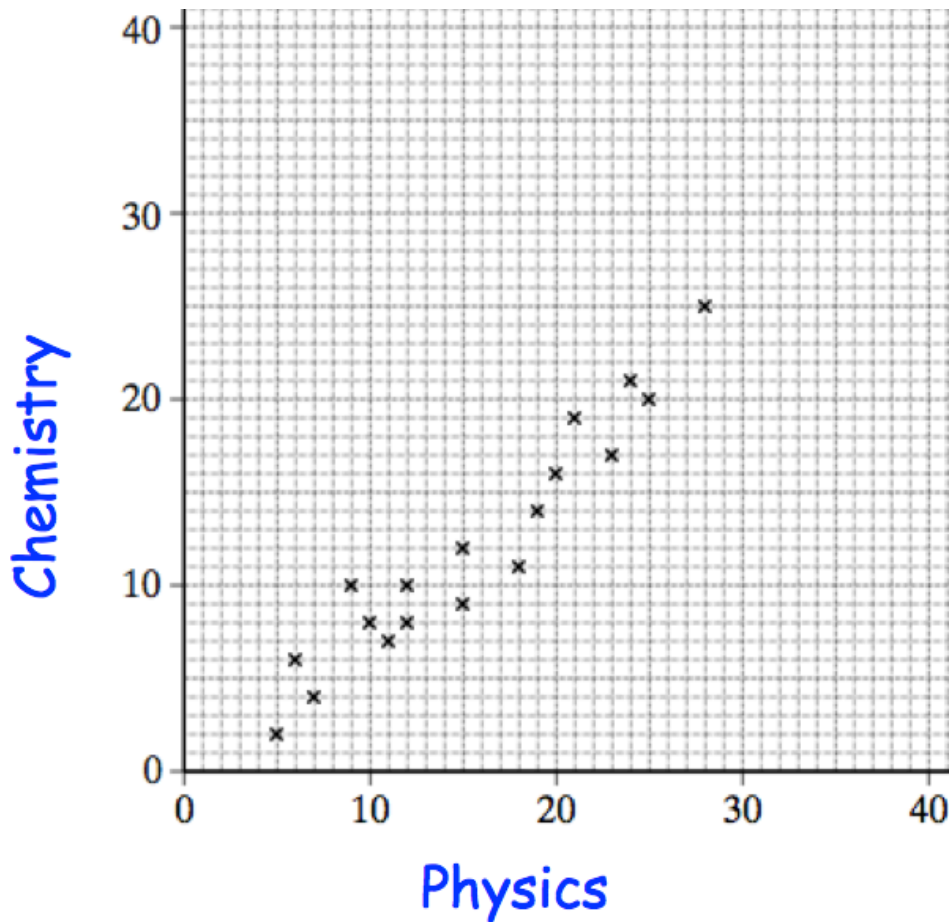
.....

(1)

(b) Design a better question for the manager of the cinema.

(2)

22. Students sit a chemistry test and a physics test.
The results are shown in the scatter graph below.



- (a) What type of correlation does the scatter graph show?

.....
(1)

Megan missed the chemistry test. She scored 17 in the physics test.

- (b) Use a line of best fit to estimate Megan's score in the chemistry test.

.....
(1)

- (c) Explain why it would not be sensible to use the line of best fit to estimate the physics score for a student who scored 35 in chemistry.

.....
.....
(1)

23. Draw the locus of all points 3cm from the line below.



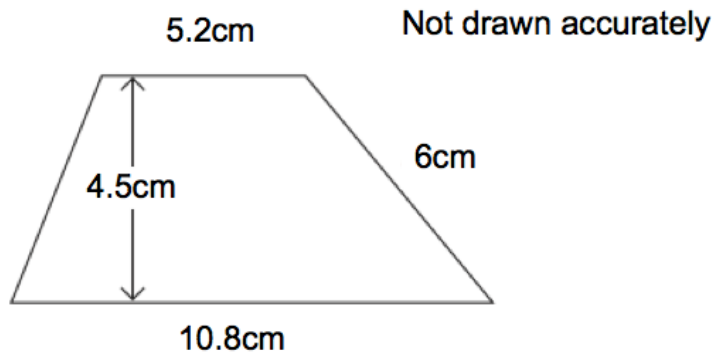
(3)

24. A piece of carpet is 240cm long.
Mr Jones cuts it into three pieces in the ratio 1 : 2 : 5

Work out the length of the longest piece of carpet.

.....
(3)

25.



Calculate the area of the trapezium.

.....cm²
(2)

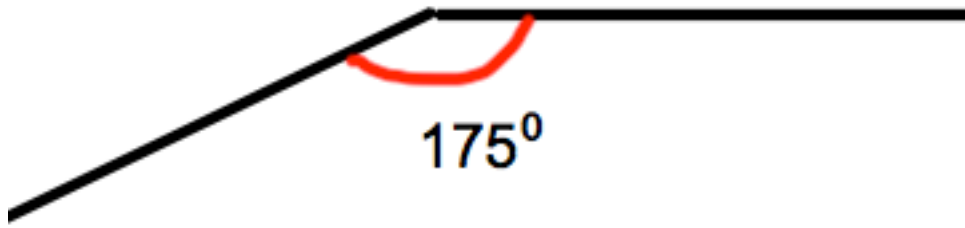
26. (a) Solve the inequality $4x - 2 < 10$

.....
(2)

(b) m is an integer such that $-3 < m \leq 2$
List all the possible values of m .

.....
(2)

27. Shown below is an interior angle from a regular polygon.



Calculate the number of sides the polygon has.

.....
(2)

28. $2x^2 = 98$

(a) Find a value of x.

.....
(2)

(b) Express 42 as a product of its prime factors.

.....
(2)

(c) Find the lowest common factor (LCM) of 42 and 98.

.....
(2)