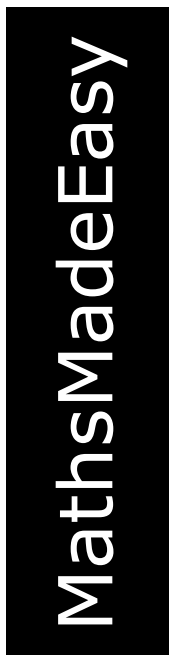


First Name	
Last Name	
Date	
Total Marks	/ 100 marks



GCSE Mathematics  
Calculator  
Foundation Tier  
Free Practice Set 4  
1 hour 30 minutes



Answers at:

<http://www.mathsmadeeasy.co.uk/gcsemathspapers-free.htm>

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### Instructions

Write your name and other details in the boxes above.

Answer all the questions

Take  $\pi$  to be 3.142

---

### Information

Marks are shown in brackets for each question (2)

**Calculators may be used**

---

### Advice

Don't spend too long on one question

Show all your working in calculations for full marks

You will get marks for method even if your answer is incorrect

Leave a question until later if you cannot answer it

---

**Materials needed for examination**

Ruler marked in centimetres and millimetres,  
protractor, compasses, pen, pencil, rubber

Tracing paper may be used

## Authors Note

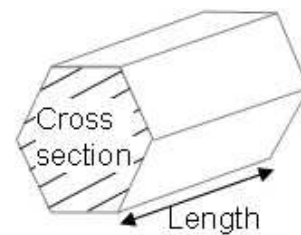
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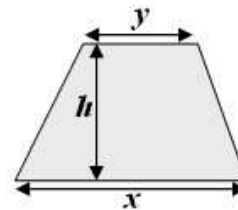
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## Formulae Sheet Foundation Tier

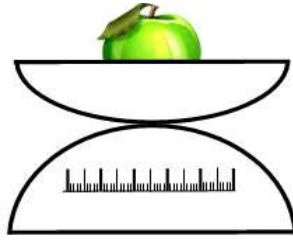
**Volume of prism** = area of cross section  $\times$  length



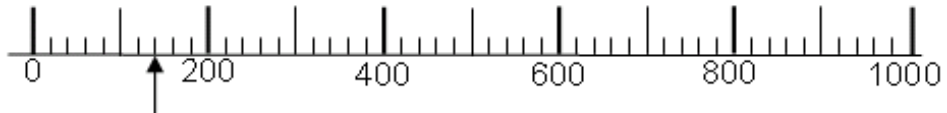
**Area of trapezium** =  $\frac{1}{2}(x + y)h$



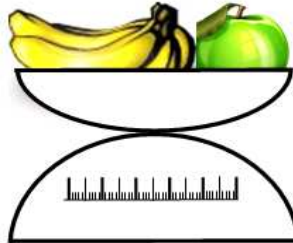
1. a) David weighed an apple on a balance



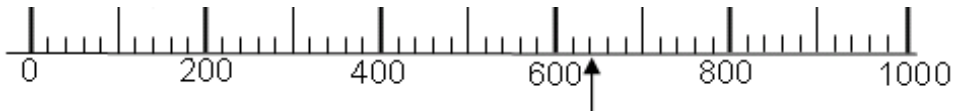
This is what the scale showed:



Then he added some bananas and weighed both



This is what the scale showed:

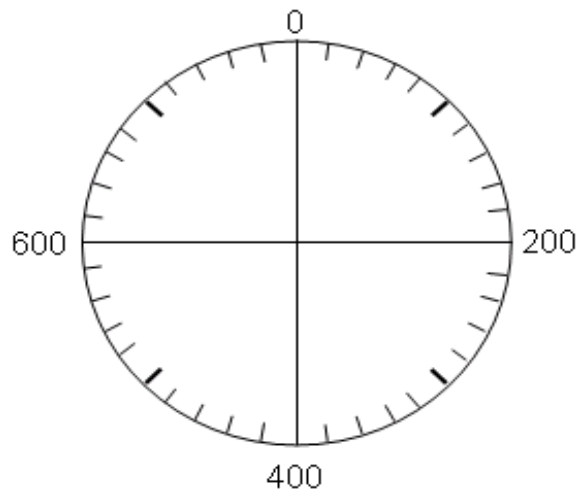


Write the missing numbers in the sentences below.

The **apple** weighs ..... grams. (1)

The **bananas** weigh .....grams. (1)

- b) On the circular scale below, **draw an arrow** to show **260**.  
Label it **C**



(2)

- c) On the same scale above, draw **another arrow** which is **320 more than C**.  
Label it **D**

2. Using your calculator work out

a)  $7^2$

..... (1)

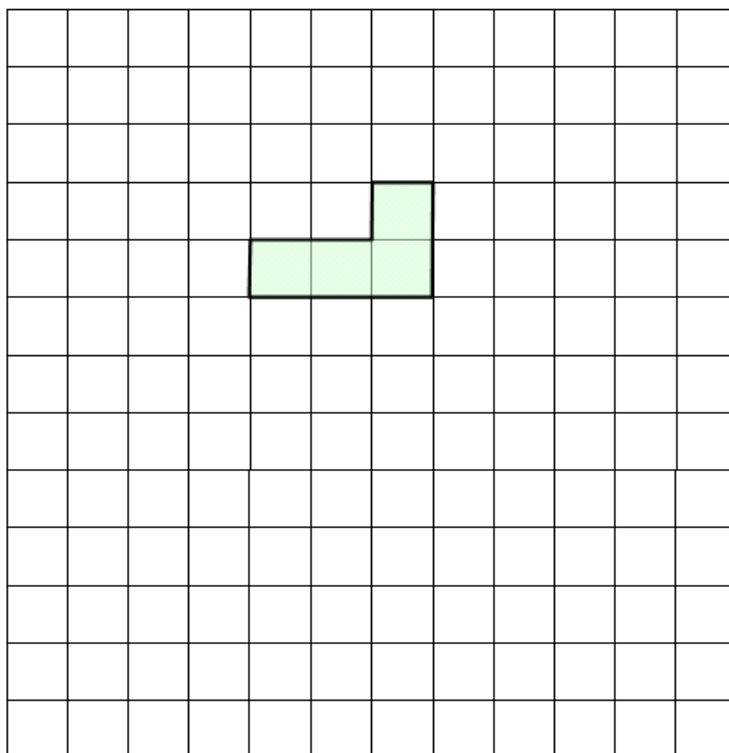
b) the square root of 8.41

..... (1)

c) 14% of 53

..... (2)

3. On the grid draw at least 6 shapes to show how the shape **tessellates**.



(2)

4. In a sale Laura bought some baby clothes for  $\frac{1}{3}$  off the normal price

a) Complete this label to show the sale price.



**$\frac{1}{3}$  off SALE**

**Normal price : £ 11. 28**

**Sale price     £**

(1)

b) In another sale, normal prices were **reduced by 50%**

Complete this label to show the normal price.



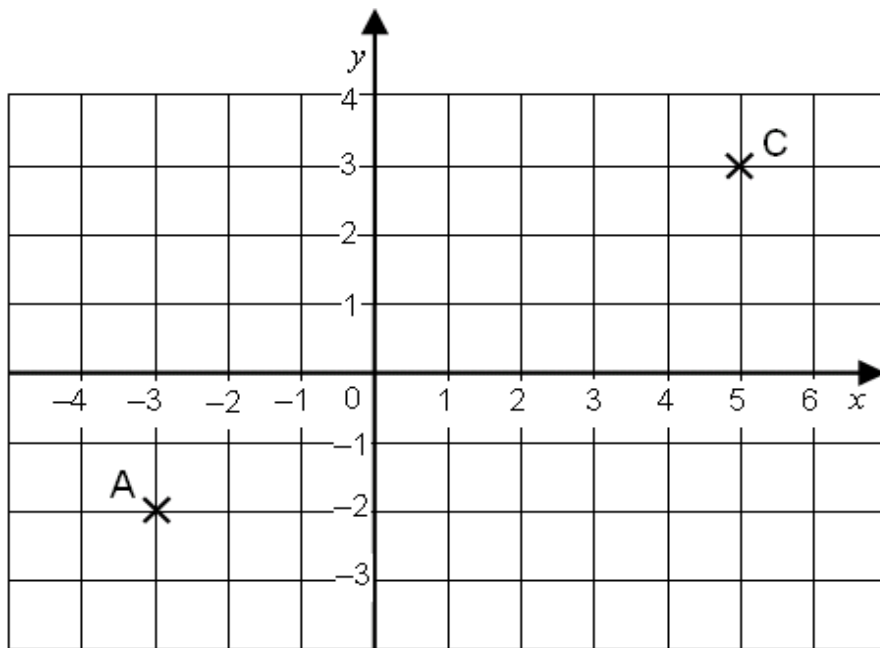
**50 % off SALE**

**Normal price : £**

**Sale price     £ 2. 87**

(1)

5. Look at the graph below



a) What are the co-ordinates of points A and C

A (..... , ..... ) (1)

C (..... , ..... ) (1)

b) Mark the point ( 3 , - 1 ) and label it B (1)

Mark the point ( - 1 , 2 ) and label it D (1)

c) Join the points A to B to C to D

What is the name of the shape you have drawn

..... (1)

6. Joe made Spaghetti Bolognese for dinner.  
 Some of the ingredients he used are shown.  
 Some of the amounts are missing.  
 Calculate and write the missing amounts in the table

	For 6 people	For 9 people
mushrooms	150 gram	
minced beef		900 grams
spaghetti		1125 grams
chopped tomatoes	500 grams	

(3)

7. a) Olivia and Rob shared 200 marbles between themselves in the ratio of **1:4**  
 How many marbles were in Rob's share.

..... (2)

b) David mixed some liquid plant food with water.  
 He adds **280** ml of plant food to **480**ml of water.  
 What is the ration of plant food to water in its simplest terms

..... (2)



8. Jack recorded some information about his football team.

Altogether they played **25** games of football in a season.

Name	Games played	Goals scored	Fouls made
Jack	21	11	3
Cameron	20	3	1
Craig	18	7	2
Dexter	25	8	4
Rob	5	1	0

a) Which player played the most games

..... (1)

b) What fraction of games of football did Cameron play in.  
Write your fraction as simply as possible.

..... (2)

c) What was the range of goals scored by the team

..... (2)

d) What was the mean number of fouls made

..... (2)

e) Who scored 7 goals and made 2 fouls

..... (1)

9. Matthew thinks of a number.  
He multiplies this number by **10**, then subtracts **40**  
The result is twice the number that he was first thinking of.  
What is the number he was thinking of?

..... (2)

10. a) What is 3.5 litres in millimetres

..... (1)

b) What is 5,000 metres in kilometres.

..... (1)

c) Stuart went to Australia  
He exchanged some money at £1.00 for 1.52 Australian dollar

What is £25 in Australian dollars.

A\$..... (2)

11. Ella bought some football kit

Some of the information in the table is missing.

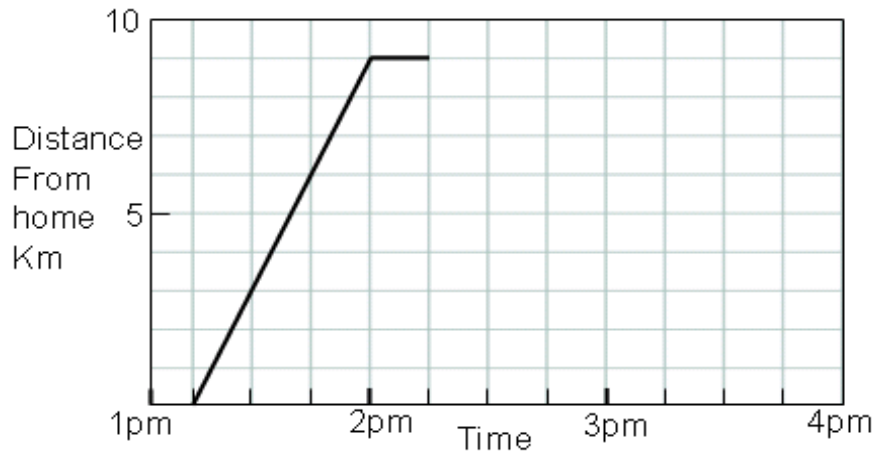
Complete the table

Item	price each	amount	Total cost
Shirt	£14.99	1	£14.99
Pair socks	£2.45 pair	3 pairs	£ .....
Pair Boots	£45.99	1	£45.99
Pair shorts	£ .....	2 pairs	£13.00
Pair Shin Pads	£ .....	1	£ .....
<b>Total</b>			<b>£85.83</b>

(3)

12. Chantelle is a cross country runner and she went for a run.

The distance-time graph shows how far away from home she was at different times.



a) What time did Chantelle start her run?

..... (1)

She ran 9 kilometres in  $\frac{3}{4}$  hour.

b) What was her speed in km per hour?

.....km/h (2)

Then she stopped

c) How long did she stop for in minutes?

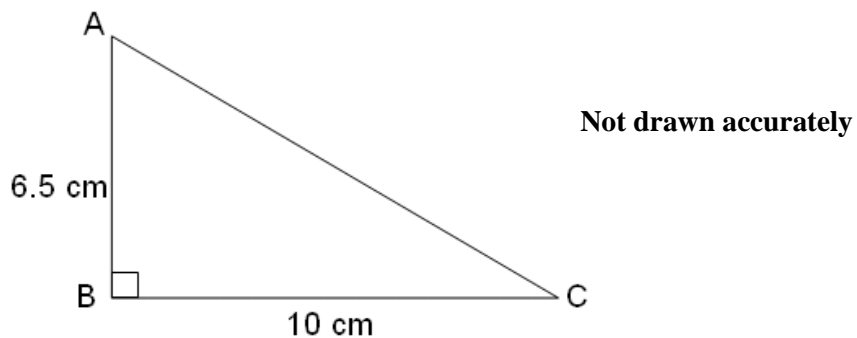
.....minutes (1)

She run home to arrive by 3:30pm.

d) Complete the distance time graph

(1)

12. Look at the right angled triangle below.



a) Make an accurate drawing of the triangle.

(3)

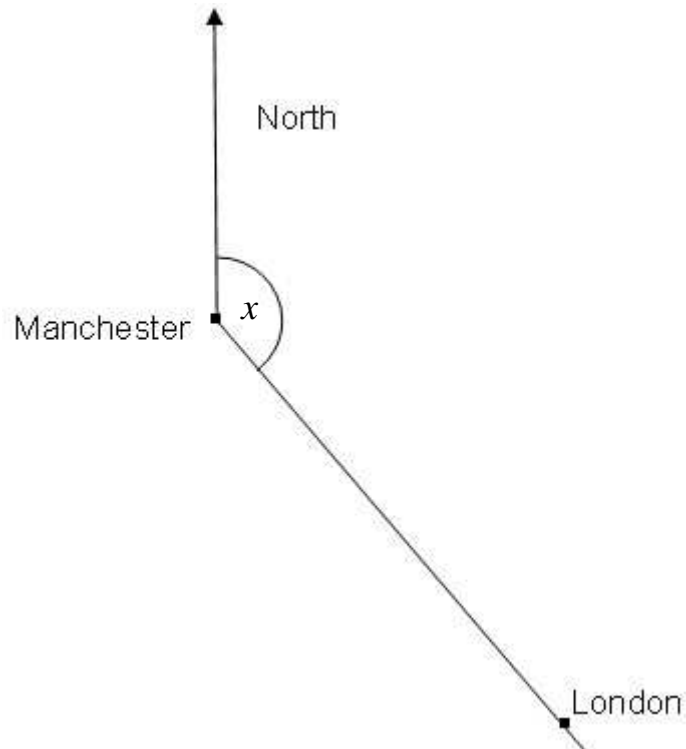
b) Calculate the area of the triangle ABC.  
Include the units in your answer

..... (3)

c) Work out the length of side AC to **2 decimal place**

..... cm (3)

13. The scale drawing shows the positions of Manchester and London.



- a) From Manchester to London, the angle from north is angle  $x$   
Measure angle  $x$  accurately

.....<sup>o</sup> (1)

- b) On the scale drawing, 1cm represents 40km.  
What is the distance, in km, from Manchester to London ?

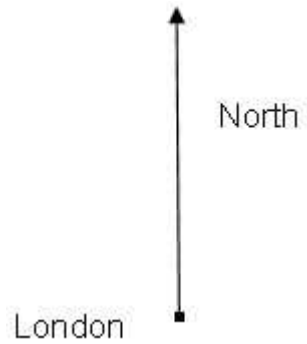
.....km (2)

- c) From London to Paris, the angle from north is  $160^\circ$  clockwise.  
Paris is 350km from London.

Show this information on a scale drawing.

Use the scale 1cm represents 50km.

The position of London is shown for you.



(2)

14. Use your calculator to work out the answers.

$$(58 + 47) \times (71 - 29)$$

..... (2)

$$\frac{58 + 47}{71 - 29}$$

..... (2)

15. What is  $\frac{1}{6} + \frac{7}{12}$

Give your answer as simply as possible

..... (2)

b) What is  $\frac{2}{5}$  as a percentage

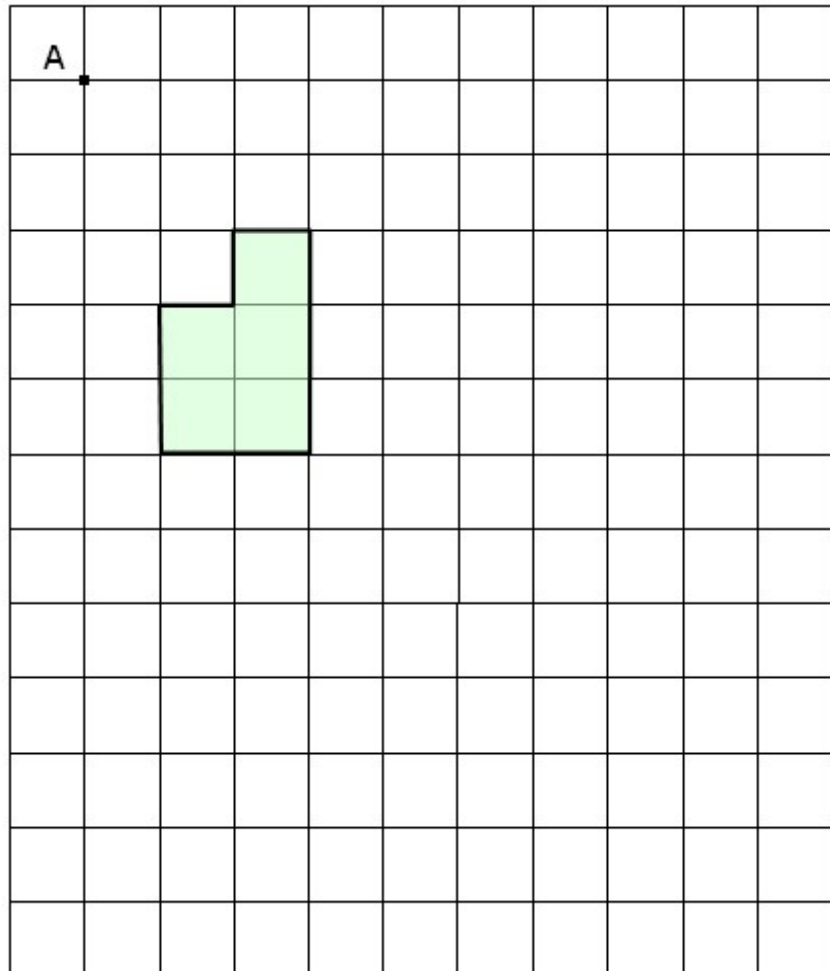
.....% (1)



15. Look at the shape drawn on a square grid.

Draw an enlargement of this shape with scale factor 2

Use point A as the centre of enlargement.



(3)

16. Here is some information about the people in a business .

A manager is going to choose someone at random.

	Man	Woman
Smoker	2	3
Non-smoker	12	13

(a) What is the probability that the person chosen will be a woman?

.....

(1)

(b) What is the probability that the person will be a smoker?

.....

(1)

(c) The manager chooses someone at random.

This person is a smoker

What is the probability that this smoker is a man?

.....

(1)

17. Here is some information about the results of two tests.

	Test A	Test B
Number taking the test	80100	73250
Percentage getting top grade	22%	28%

**How many more** students gained top grade in Test B than in Test A?

18. Look at this equation

$$x^3 - 5x = 30$$

The value for  $x$  is between 3 and 4

Use trial and improvement to find the value for  $x$  to **one decimal place**.

Show all your working. Use the table to help you.

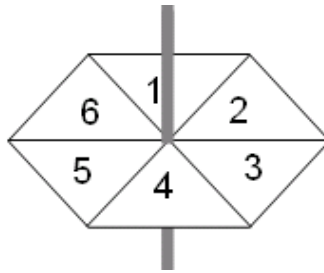
$x$	$x^3$	$-5x$	=

$x = \dots\dots\dots$

(3)

(4)

19. a) What is the probability of getting a score of **2 or more** on a 6-sided spinner?



..... (1)

There are **120** coins in a money bag.

The table shows the probability for randomly picking different coins out of the bag

Coins	5p	10p	20p	50p	£1
Probability	0.2	0.1		0.35	0.05

b) What is the probability of picking a 20p coin

..... (2)

c) How many 5p coins are there in the bag

..... (2)

20. a) Make  $x$  the subject of the formula

$$y = 3x - 6$$

$$x = \dots\dots\dots (2)$$

- b) Find all the possible values of  $p$  if

$$-2 \leq p < 5$$

$$\dots\dots\dots (2)$$

- c) Solve  $5x - 20 = 2x + 16$

$$\dots\dots\dots (2)$$

21. The table shows distances, in miles, between six towns.

	Grimsby				
36		Lincoln			
78	72		Leeds		
61	75	25		York	
73	38	73	86		Nottingham
161	156	96	90	161	Newcastle

a) How far is it from Lincoln to Nottingham

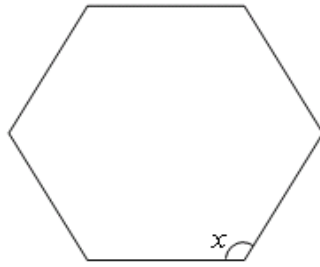
..... miles (1)

b) Jane drives from Newcastle to York then continues to Grimsby.

How far is her complete journey

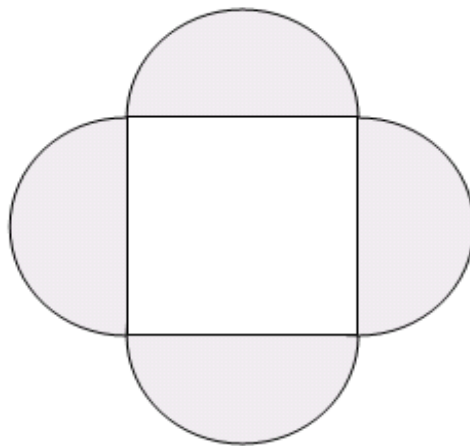
..... miles (2)

22. a) Calculate the size of an interior angle  $x$  of this regular shape  
Show all your working.



.....<sup>0</sup> (2)

- b) The shape below is made by drawing semicircles on each of the sides of a square.  
The perimeter of the square is 24 cm.  
Calculate the shaded area to 1 decimal place.



.....cm<sup>2</sup> (4)