

First Name	
Last Name	
Date	
Total Marks	/ 100 marks

MathsMadeEasy

GCSE Mathematics  
Calculator  
Foundation Tier  
Free Practice Set 2  
1 hour 30 minutes



Dedicated to my Mother, Sylvia (1930-1997)

Answers at:

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

### 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

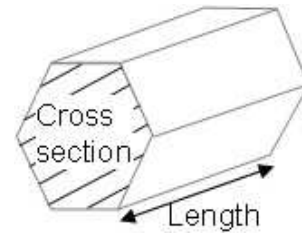
Leave a question until later if you cannot answer it

### Materials needed for examination

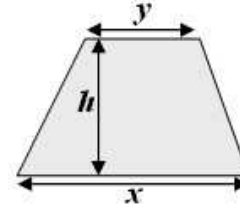
Ruler marked in centimetres and millimetres,  
protractor, compasses, pen, pencil, rubber  
Tracing paper may be used

## Formulae Sheet

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



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



### Authors Note

Every possible effort has been made to ensure that everything in this paper is accurate and the author cannot accept responsibility for any errors.

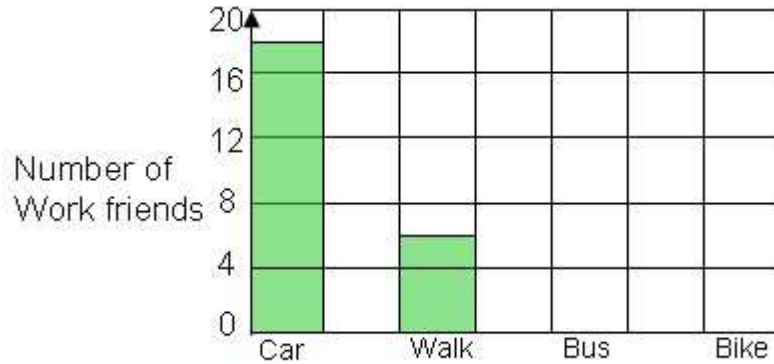
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**Answer ALL questions.**  
**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

1. Cyril plotted how his work friends got to work:



17 came by Bus  
 2 came by bike

a) How many walked to work?

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

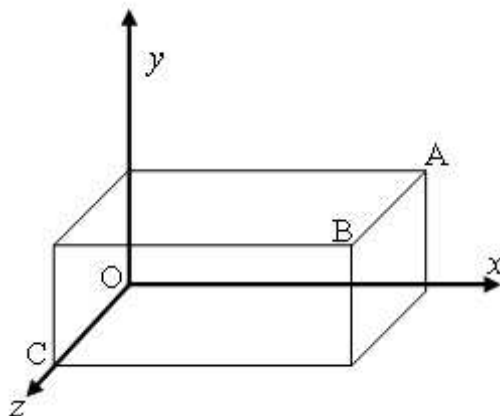
b) Complete the bar chart

**(2)**

c) How many work friends does Cyril have

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

2. A cuboid lies on the co-ordinate axes.



Not drawn accurately

The point B has co-ordinates (5, 3, 2)

What are the co-ordinates of the point A

.....

3. Simplify (1)

i)  $9p - 4p$  ..... (1)

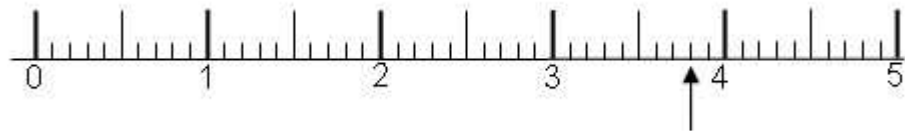
ii)  $p \times q \times 7$  ..... (1)

i)  $q \times q \times q$  ..... (1)

4. a) What is 0.257  
i) correct to 1 decimal place ..... (1)

ii) correct to 2 significant figures ..... (1)

b) What is the number marked below



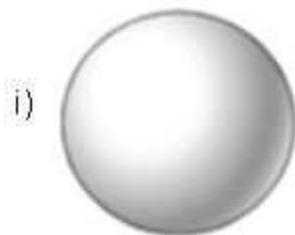
..... (1)

c) Mark the number 26 with an arrow on the line below

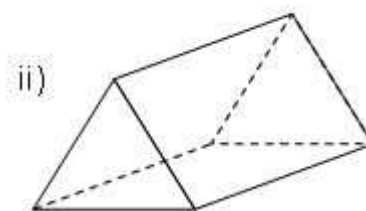


(1)

5. What is the mathematical name for these shapes



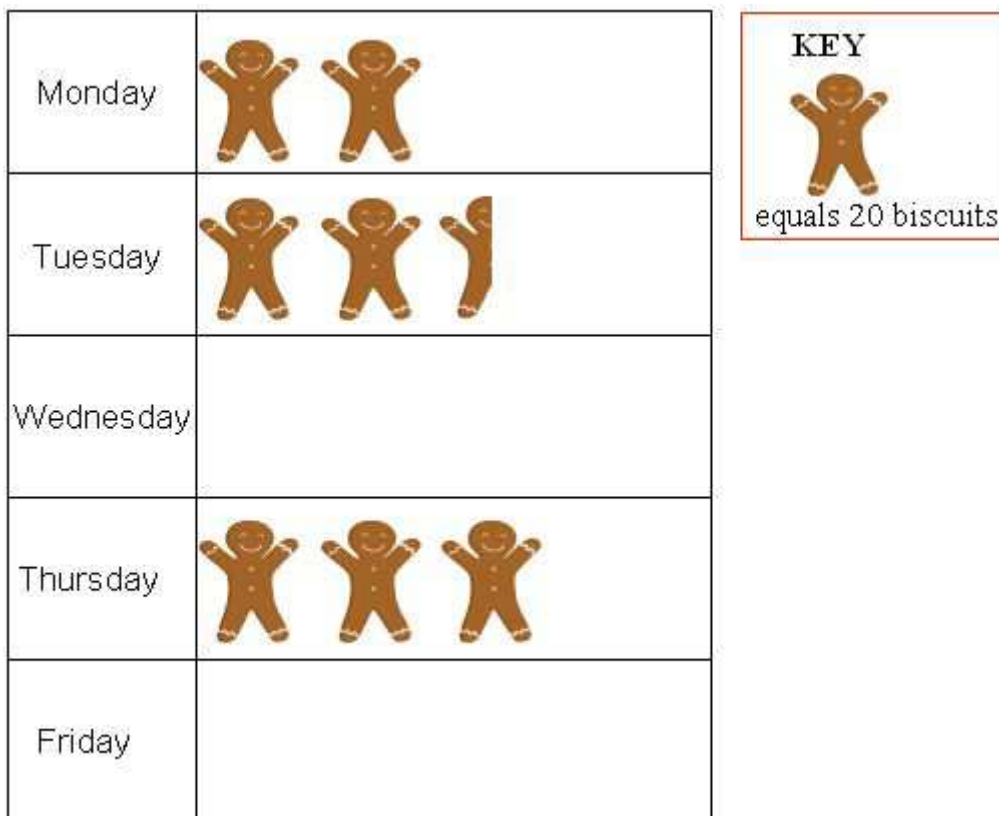
.....



.....

(2)

6. The pictogram shows how many biscuits were sold by a bakery.



a) How many biscuits were sold on:

i) Monday, Tuesday and Thursday

....., ....., .....

(3)

30 biscuits were sold on Wednesday and 80 were sold on Friday.

b) Complete the pictogram.

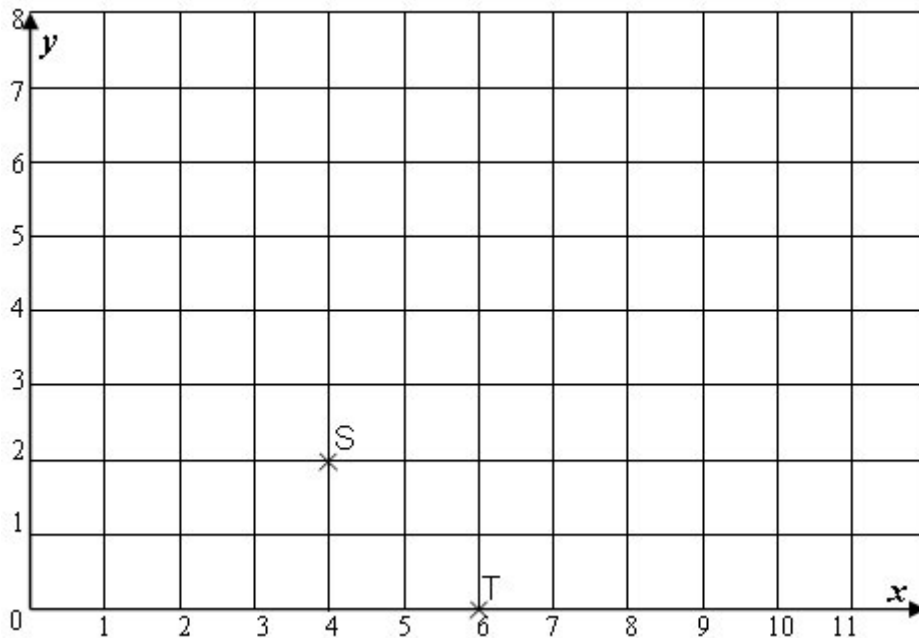
(2)

7. Dileep bought some supplies from the Cash and Carry. Complete his bill:

<b>Cash and Carry store</b>			
Description	Number	Cost of each item	Total
Bottles of orange juice	4	£1.20	£4.80
Packets of crisps	3	£0.27	£.....
Pair of Jeans	3	£.....	£21
Pair of socks	3	£2.54	£.....
Total cost			£.....

(4)

8.



a) What are the co-ordinates of point S  
 (....., .....)

What are the co-ordinates of point T  
 (....., .....)

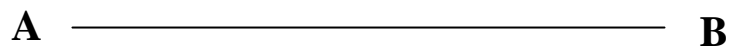
(2)

b) Put a cross and label P on point (8, 6)

Put a cross and label Q on point (0, 7)

(2)

9. A horizontal line AB is drawn below



a) Using a compass and pencil construct an **equilateral** triangle with line AB as the base. (3)

10. Mrs Dew went to a museum with three teenagers. It was £6.50 for an adult and £3.50 for each teenager. How much did it cost her altogether to get in?

£.....  
(2)

11. a) What is  $\frac{6}{10}$

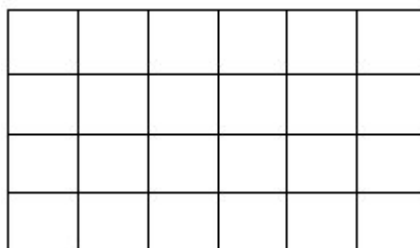
i) as a decimal

..... (1)

ii) as a percentage

..... (1)

- b) Shade  $\frac{2}{6}$  of this shape



(1)

12. Complete the missing units below:

	<b>Metric</b>	<b>Imperial</b>
The width of your hand	centimetres	.....
The weight of a bag of sugar	.....	pounds
The amount of water in a jug	.....	pints

(3)



13. The table below shows how far it is between four towns (in miles).

Toddington			
41	London		
156	195	Leeds	
163	202	10	Bradford

a) How far is it from Toddington to London  
 .....miles  
 (1)

b) Which two towns are the farthest apart?  
 ..... and .....  
 (1)

Martin starts in Toddington  
 He goes to Leeds.  
 Then he goes to Bradford.  
 Then he returns back to Toddington.

c) How far has Martin gone?  
 .....miles  
 (3)

14.



Matty is making chocolate drops.  
He uses margarine, sugar, flour, cocoa and chocolate.

The diagram shows some of the proportions by weight of ingredients in the chocolate drops.

a) What is the weight of **chocolate** in 800 grams of Matty's chocolate drops.

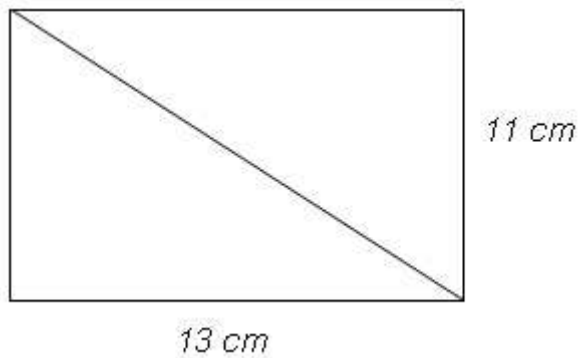
.....grams  
(2)

12.5 % of the weight of the chocolate drops is sugar.

b) Complete the pie chart

(2)

15. A rectangular is shown below with a diagonal across the middle.



Not To Scale

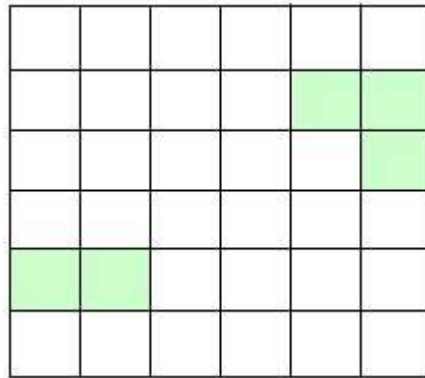
- a) Work out the total length of the sides of the rectangle including the diagonal.  
Give your answer to 2 significant figures.

.....cm  
(4)

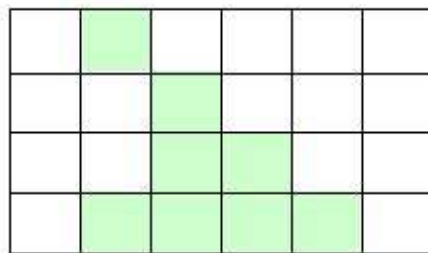
- b) 11 and 13 are both prime numbers. What are the next two prime numbers?

.....  
(2)

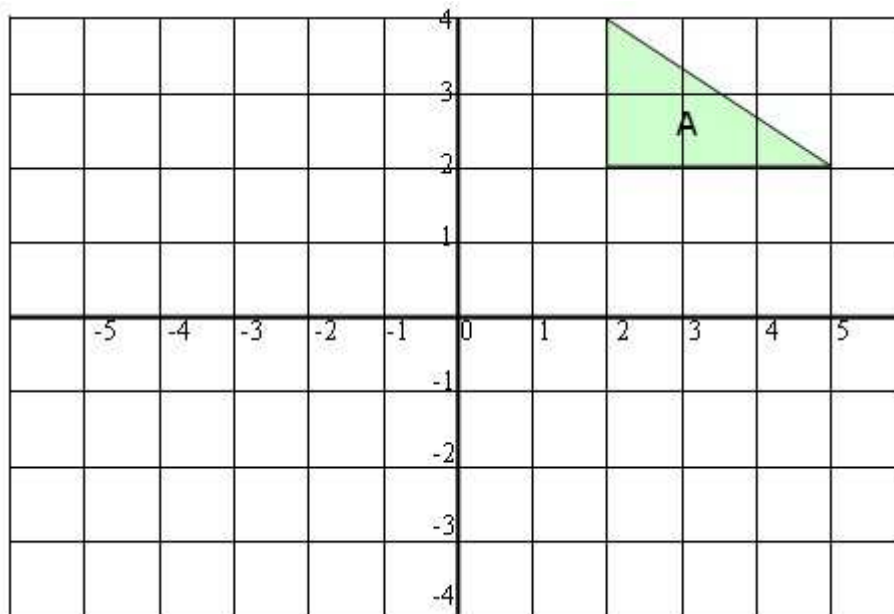
16. a) Shade one square to give this pattern a rotational symmetry of order 2. (1)



- b) Shade two squares to give this pattern one line of symmetry. (1)



- c) Reflect triangle A in the y-axis. Label it B (2)



- d) Rotate triangle A by  $180^\circ$  about (0, 0). Label it C. (2)

17. Below are the first 4 terms of a number sequence

3      7      11      15

a) What is the next term

.....  
(1)

b) What is the 10<sup>th</sup> term

.....  
(1)

c) Is 254 in this number sequence.

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

18. Laura changed £200 into Australian dollars (Aus\$)  
The exchange rate was £1 = Aus\$2.45

a) How many Australian dollars is that

Aus\$.....  
(2)

On her return she changed Aus\$42.35 back to pounds  
The exchange rate was now £1 = Aus\$2.42

b) How many pounds did she get?

£.....  
(2)

**19.**  $Y = 6a$

**a)** Find the value of  $Y$  when  $a = 5$

$$Y = \dots\dots\dots$$

**(1)**

$$B = c + d - 6e$$

$$c = 15$$

$$d = 20$$

$$e = 3$$

**b)** Find the value of  $B$

$$B = \dots\dots\dots$$

**(2)**

20. What is

a)  $\sqrt{(4.5 + 7.8)}$

.....

b)  $\pi r^2$  when  $r = 3.25$

.....

c)  $\frac{1}{0.25^2}$

.....

**(3)**

21. There are 25 coloured buttons in a bag

8 buttons are blue

12 buttons are green

5 buttons are red.

If you take a button at random from the bag

What is the probability that it is

a) a red button

.....

**(1)**

b) NOT a blue button

.....

**(1)**

c) a yellow button

.....

**(1)**

22. 5 kg of pears and 2kg of oranges costs £10.56.

6 kg of pears cost £7.68

How much is it for 1kg of oranges.

.....

**(3)**

23. a) Simplify  $f + 3g + 4f - g$

.....  
(1)

$$y = 3x + 6$$

b) What is the value of  $x$  when  $y = 24$

.....  
(2)

24. David drove at 65 miles per hour for 4 hours.

How far did he go?

.....miles  
(2)

25. What is

a) 43% of 150

.....  
(1)

b) the cubed root of 216

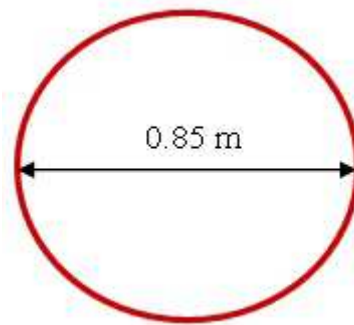
.....  
(1)

c) 7.4 cubed

.....  
(1)



26.



A circle has a diameter of 0.85 metres.

- a) What is the circumference of the circle in *centimetres* to 3 significant figures.

.....cm  
(2)

A wheel has a diameter of 0.85m.  
It rolls for 40 metres.

- b) How many turns will the wheel make to the nearest whole number.

.....  
(2)

27. Bill gets 5.6% **simple** interest per year on his £6000.  
How much will he have after 2 years.

£.....  
(3)

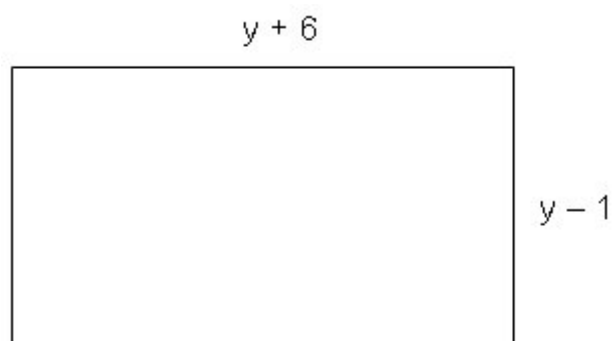
28. a) Simplify  $y^6 \times y^4$

.....  
(1)

b) Expand and Simplify  $(y + 5)(y + 4)$

.....  
(2)

29.



a) Show that the area  $A$  of the rectangle above is  $A = y^2 + 5y - 6$

(2)

b) Express the perimeter of the rectangle in terms of  $y$

.....  
(1)

c) If the perimeter = 38 what is the value of  $y$

.....  
(1)

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**TOTAL FOR PAPER: 100 MARKS**  
**END**