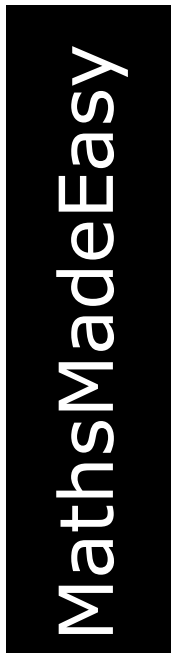


| | |
|-------------|-------------|
| First Name | |
| Last Name | |
| Date | |
| Total Marks | / 100 marks |



GCSE Mathematics
Non-Calculator
Foundation Tier
Free Practice Set 5
1 hour 30 minutes



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 π to be 3.142

Information

Marks are shown in brackets for each question (2)
Calculators may not be used

Advice

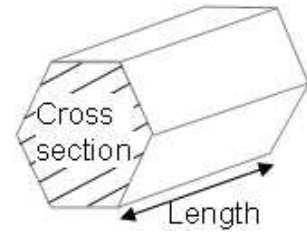
Don't spend too long on one question
Show all your working in calculations for full marks
You will get marks for method even if your answer is incorrect
Leave a question until later if you cannot answer it

Materials needed for examination

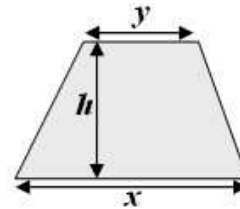
Ruler marked in centimetres and millimetres,
protractor, compasses, pen, pencil, rubber
Tracing paper may be used

Formulae Sheet

Volume of prism = area of cross section \times length



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

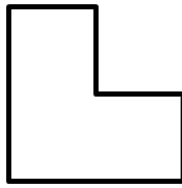


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1. a) Draw a line of symmetry on the shape below.

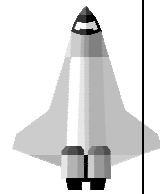


(1)

- b) What is the order of rotational symmetry for the shape.

..... (1)

2. The space shuttle travels at 27 870 km per hour.



- a) What is 27 870 in words.

..... (1)

- b) What is 27 870 to the nearest hundred.

..... (1)

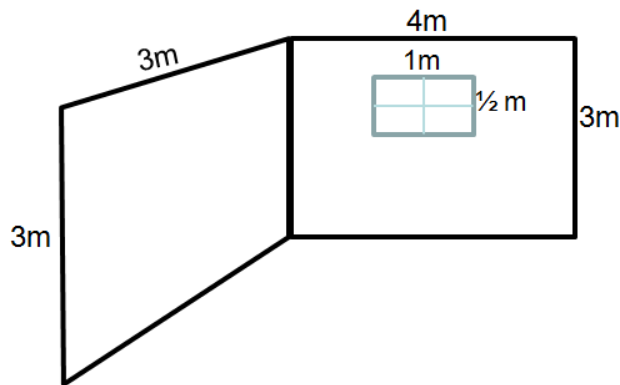
- c) If the space shuttle travelled for 3 hours how far would it have travelled

..... km (2)

- d) The wingspan of the space shuttle is 23.79 m
What is the wingspan in cm.

.....cm (1)

3. Two walls of a bathroom need tiling. The walls are shown below.



not drawn accurately

One wall is 3 metres by 3 metres.

The other wall is 3 metres by 4 metres with a window which is 1 metre by $\frac{1}{2}$ metre.

Work out the area that needs tiling.

..... m² (3)

Tiles are squares measuring 25cm by 25 cm. They cost £3.00 each
Calculate the costs of tiling the bathroom

£..... (3)

4. A number pattern is shown below.

| Pattern number | Pattern | Total |
|----------------|-------------|-------|
| 1 | 3 = | 3 |
| 2 | 3 + 4 = | 7 |
| 3 | 3 + 4 + 4 = | 11 |
| 4 | | |
| 5 | | |

- a) Complete the table above. (2)
- b) What is the expression in terms of n , for the total in pattern number n .

..... (2)

5. a) Matthew was paid £1234 a month. His rent was £357 a month
How much did he have left after paying his rent.

What is (1)

b) $-5.3 - 4.7$ (1)

c) $4 + 5 \times 2$ (1)

d) Arrange these numbers from *smallest to largest*.

0.809 - 1.09 0.099 - 0.9 0.89

..... (1)





6. The tally chart shows how many pies Henry sold in his cafe in a week.

| | Tally | Frequency |
|-----------|-------------|-----------|
| Monday | | 5 |
| Tuesday | /// | |
| Wednesday | /// /// | 10 |
| Thursday | | 12 |
| Friday | /// /// | 11 |
| Saturday | /// /// /// | |

- a) Complete the tally and frequency columns.

(2)

The pictogram below shows the *same information* above.

| | Pies sold |
|-----------|--|
| Monday | |
| Tuesday |  |
| Wednesday |  |
| Thursday |  |
| Friday | |
| Saturday |  |

Key:

- b) Complete the pictogram and the key.

(2)

7. a) Estimate:

$$12.9 \times 199$$

Show your working.

..... (1)

b) Estimate:

$$\frac{24.9 \times 50.1}{10.2 \times 4.9}$$

..... (2)

8. a) What is **1500** grams in kilograms.

..... kilograms (1)

b) What is **1.234** kilometres in metres.

..... metres (1)

c) What is **0.225 litres** in millilitres

..... millilitres (1)

9. Henry drove 155 miles from Bedworth to Yarm.
 He stopped at the “*half way cafe*” for a meal and a drink.
 The cafe is *exactly half the distance* between Bedworth and Yarm.

Using 5 miles = 8 kilometres what is

- a) The distance from Bedworth to the *half-way cafe* in kilometres.

..... km (3)

- b) At the *half way Cafe* they had a special offer:

Special offer
1 drink, 1 main, 1 pudding for only £5.00

Henry ordered one Tea, Ham and Chips and Apple Pie.
 He paid the special offer price of £5.00

How much did he *save* compared to the normal price?

Half-Way Cafe

| | | |
|--------------------|-------|--------------------|
| Tea | £0.85 | Juice...£0.50 |
| Coffee | £1.10 | |
| Cappuccino | £1.20 | |
| MAINS | | |
| Bacon and eggs.. | £3.18 | PUDDINGS |
| Baked potato | £2.95 | Ice-cream...£1.50 |
| Ham and Chips .. | £3.05 | Apple Pie....£1.45 |
| | | Trifle |
| | | £1.65 |

£..... (3)

10. Chantelle wants to buy *two pairs* of trainers.
Three shops sell the trainers she wants, as shown below.

| |
|----------------------|
| DW Shoes |
| Trainers |
| Normal price £40 |
| $\frac{1}{5}$ th off |

| |
|------------------|
| CB Sports |
| Trainers |
| Normal price £38 |
| 15% off |

| |
|--|
| Joggers |
| Trainers |
| Normal price £43 |
| Buy one pair get 2 nd pair Half price |

Calculate which shop is the cheapest for *two pairs* of trainers.
Show all your working

Cheapest Shop is (5)

11. a) What is 28% as a *fraction*.
Give your answer in its simplest form.

..... (1)

b) In a group of 50 pupils, 21 were girls.
What *percentage* of the class were **boys**.

.....% (1)

c) Work out

$$\frac{1}{2} \times \frac{1}{3}$$

..... (1)

d) Work out

$$\frac{2}{3} + \frac{1}{6}$$

..... (2)

12. David is y years old.

His wife Jane is 3 years younger.

a) Write down an expression, in terms of y , for Jane's age.

..... (1)

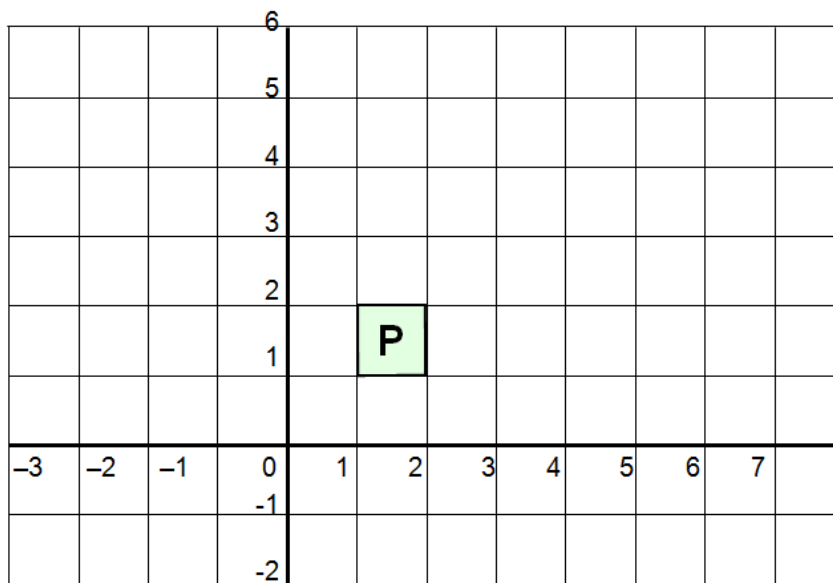
The total age of both David and Jane is 117 years.

b) Write an equation and solve it to find the value of y (David's age).

.....years (2)

13. A square P is shown on the grid below.

a) Enlarge **P** by scale factor 3, with centre O . Label the new shape Q.



(3)

b) Translate square P by $\begin{bmatrix} -3 \\ +3 \end{bmatrix}$ Label the new shape R

(1)

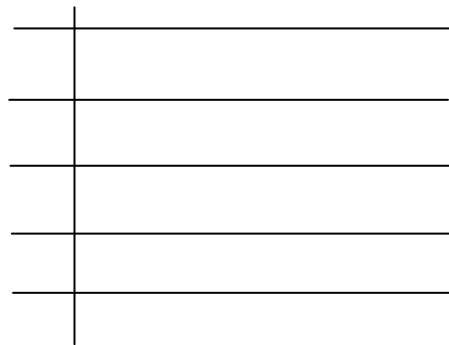
c) Reflect shape P in the line $y = 3$. Label the new shape S

(2)

14. A teacher recorded the test marks out of 50 for 19 students in her class.

34 31 29 17 16 25 45 21 17 33
 40 24 32 29 44 17 21 33 29

Draw an ordered stem and leaf diagram to show this information.
 Include a key.



Key

(3)

b) What was median mark

.....

(1)

c) What was the range of marks

.....

(1)

15. Given that

$$543 \times 21 = 11403$$

find the value of

a) 54.3×2.1

.....

(1)

b) 0.543×0.21

.....

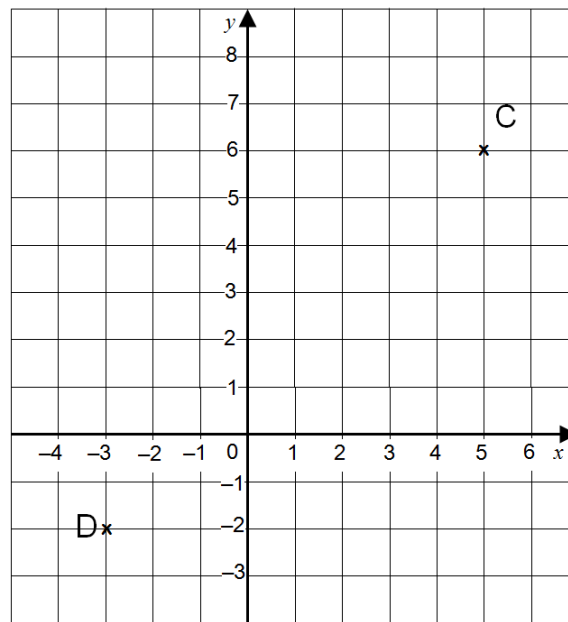
(1)

c) $1140.3 \div 543$

.....

(1)

16. Look at the points shown on the graph.



- a) Write down the coordinates of point C.
 (.....,) (1)
- b) Write down the coordinates of point D.
 (.....,) (1)
- c) Draw a line between points C and D. Mark the mid-point of the line with a cross (×) and label it as E.
 Write down the co-ordinates of the point E.
 Point E is (..... ,) (1)

17. $P = 6q - 3r$
 $q = 7$
 $r = -2$

Work out P

P = (2)

If P = 24 and r = 2 work out q

q = (2)

18. A regular shape has an angle marked y as shown.

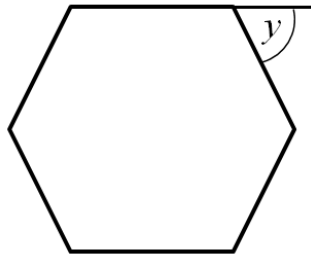


Diagram not drawn accurately

- a) Why is it called a *regular*

..... (1)

- b) Write down the name of the regular shape.

..... (1)

- c) Calculate the size of the external angle marked as y
Show all your working.

.....° (2)

19. Josh measured three pieces of wood – Oak, Pine and Teak.
Altogether they were 63cm long.
The Oak piece was twice as long as the Pine piece.
The Teak piece was three times as long as the Oak piece.

How long was each piece of wood.

Pine
Oak (3)
Teak

- 20.** Self-employed people can claim expenses for car travel.
Use the rule below to work out how much can be claimed for car travel

$$\text{Claim} = \text{£}0.45 \times \text{number of miles}$$

- a) Stuart drove 220 miles
How much can he claim for 220 miles.
Give your answer in pounds and pence

£..... (2)

- b) Laura claimed £141.75 for petrol.
How many miles did she travel

.....miles (2)

21. The two way table shows information about 50 students and which sport they prefer.

| | Boys | Girls | Total |
|------------|------|-------|-------|
| Swimming | 11 | | 28 |
| Gymnastics | | | 8 |
| Athletics | 8 | 6 | |
| Total | | 28 | 50 |

a) Complete the two-way table (3)

One student is picked at random

b) What is the probability that this student prefers swimming

..... (1)

c) A girl was picked. What is the probability she prefers gymnastics

..... (1)

22. a) Factorise: $14a + 7$

..... (1)

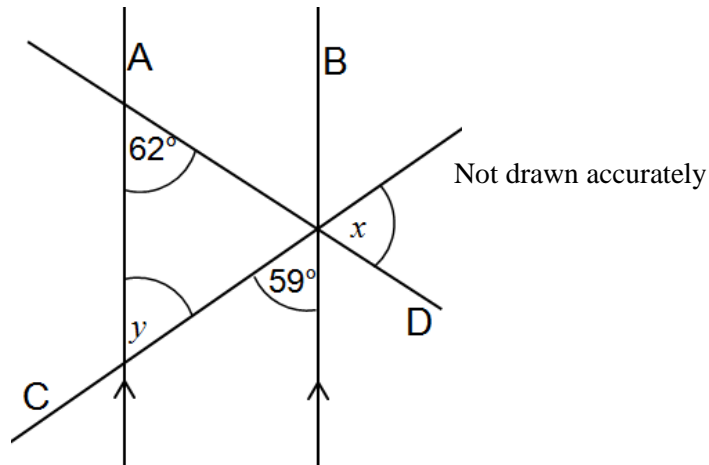
b) Expand $y(y - 5)$

..... (2)

c) Expand and simplify $(5x - 2)(x + 3)$

..... (2)

23.



Line A is parallel to line B
Two lines C and D diagonally cross lines A and B

a) What is the size of the angle marked y

.....° (1)

b) What is the size of the angle marked x

.....° (1)

24. Bill had an internet business selling socks. He starts by charging £5.00 for each pair plus postage of £3 for each order.

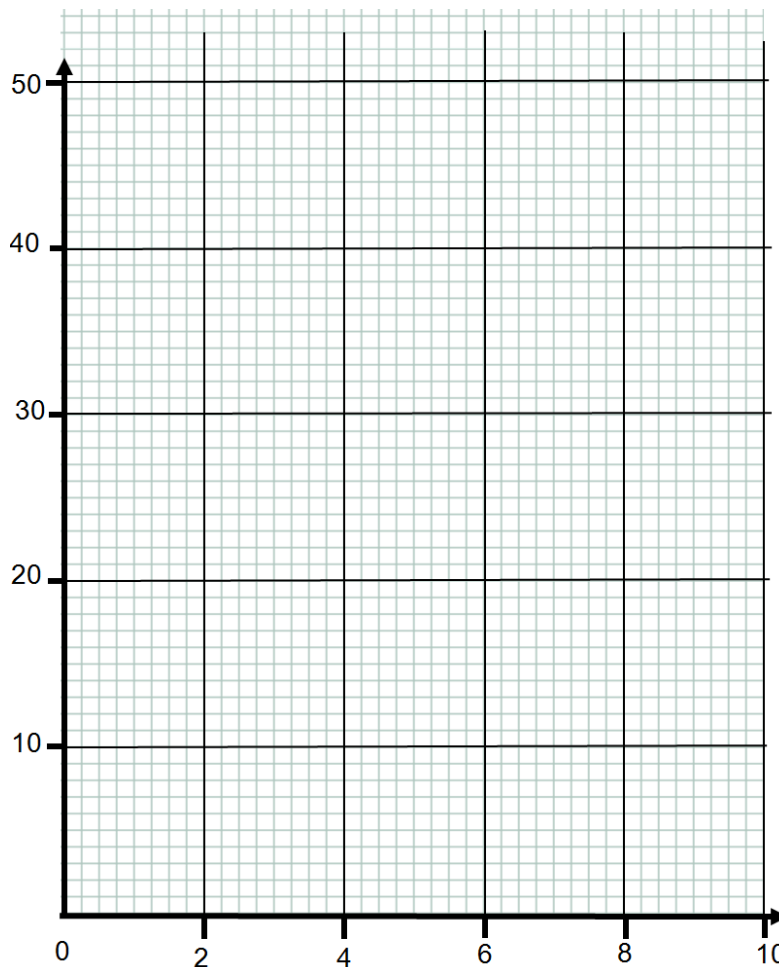
a) Complete the table below

| | | | | | |
|--------------------------------------|----|-------|-----|-------|-------|
| Number of pairs of socks in an order | 1 | 2 | 3 | 4 | 5 |
| Total cost of order | £8 | | £18 | | |

(2)

b) On the graph below for $x = 0$ to 10, plot the equation

$$y = 5x + 3$$



(2)

c) Bill reduced the price for a pair of socks to £4, but increased postage to £6. On the same graph plot the equation showing this information.

Look at the two graphs to compare both offers and work out for how many pairs of socks they charge the same.

(2)

.....