GCSE Mathematics Practice Tests: Set 2

Paper 1F (Non-calculator)

Time: 1 hour 30 minutes

You should have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Instructions



- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need*.
- **Calculators must not be used.**
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question*.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

This publication may only be reproduced in accordance with Pearson Education Limited copyright policy.
©2016 Pearson Education Limited.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Change 7800 grams into kilograms.

……kilograms

(Total 1 mark)

---

2. Write 0.07 as a percentage

……%

(Total 1 mark)

---

3. Write 7.8365 correct to 2 decimal places.

……

(Total 1 mark)

---

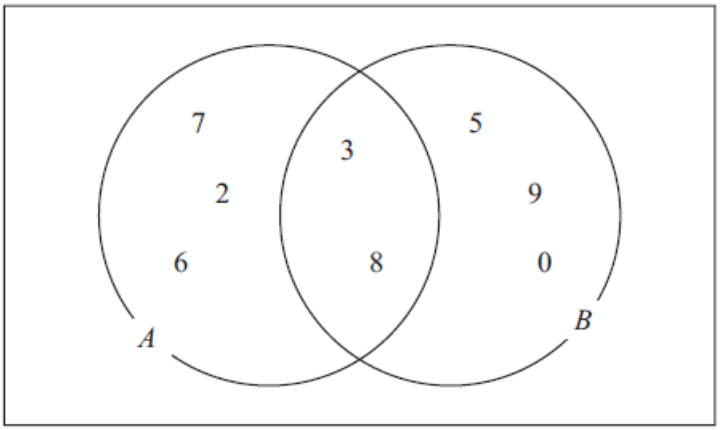
4. Work out $(-5)^2$

……

(Total 1 mark)

---

5. Here is a Venn diagram.



(a) Write down all the numbers in set A.

.....

(2)

(b) Write down the numbers that are in set $A \cap B$.

.....

(1)

(Total 3 marks)

6. Here are four digits.

8 2 4 3

(*a*) (i) Use two of these digits to make the smallest possible two-digit number.

.....

(ii) Use three of these digits to make the three-digit number closest to 300.

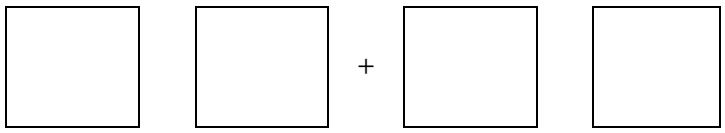
.....

(2)

Here are four different digits.

5 1 7 9

(*b*) (i) Put one digit in each box to make the largest total.
You may only use each digit once.



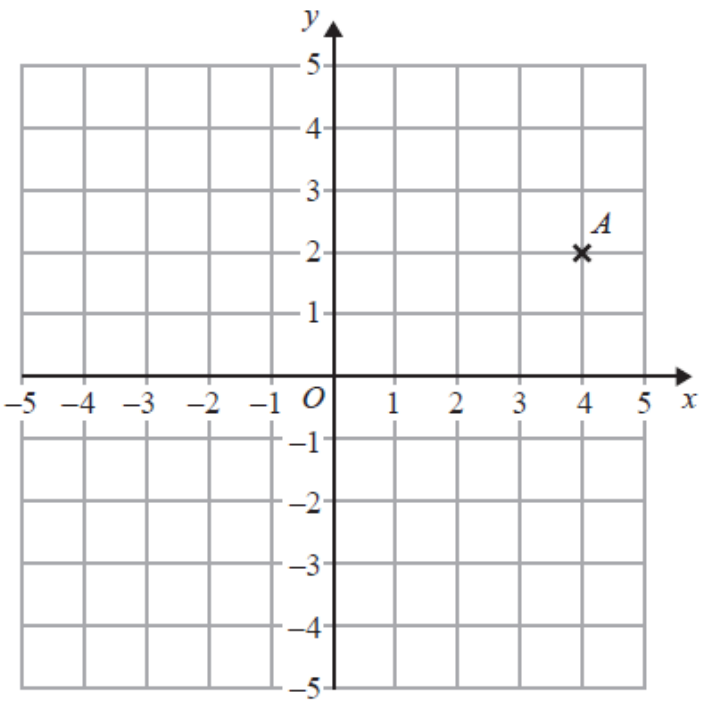
(ii) Write down the total.

.....

(2)

(Total 4 marks)

7.



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

(..... , ...)

(1)

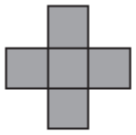
(b) On the grid, mark with a cross (×) the point (–3, 0).
Label this point *B*.

(1)

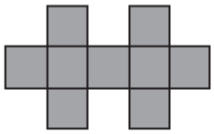
(Total 2 marks)

---

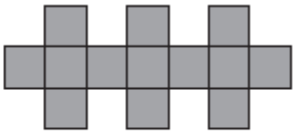
8. Here are some patterns made from squares.



Pattern number 1

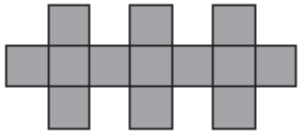


Pattern number 2



Pattern number 3

(a) The diagram below shows part of Pattern number 4
Complete the diagram for Pattern number 4



Pattern number 4

(1)

(b) Complete the table.

Pattern number	1	2	3	4	5
Number of squares	5	9	13		

(1)

(c) Find the number of squares used for Pattern number 10

.....

(1)

(Total 3 marks)

---

9. Two numbers are added together.
The answer is 15

Both the numbers are factors of 24

What are the two numbers?

..... and .....

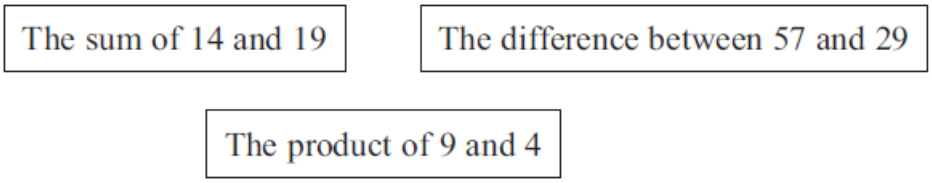
(Total 2 marks)

---

10. Make an accurate drawing of an equilateral triangle of side length 5 cm.

(Total 2 marks)

11. Here are three calculations.



Which of these calculations has the biggest answer?
You must show how you got your answer.

(Total 3 marks)

12. Here is a bus timetable from a Park and Ride car park to a town centre.

Car park	Town centre
0740	0752
0800	0812
0815	0827
then every 15 minutes until	
1815	1827

Sadia gets to the car park at 0745.
She catches the next bus to the town centre.

(*a*) What time should the bus get to the town centre?

.....
(1)

Here is the bus timetable from the town centre to the car park.

Town centre	Car park
0803	0815
0835	0847
0902	0914
0920	0932
then every 15 minutes until	
1920	1932

(*b*) How many buses go from the town centre to the car park between 0800 and 1000?

.....
(2)

Paul wants to leave the town centre after 1730.
He is going to catch a bus to the car park.

(*c*) What is the time of the first bus Paul can catch from the town centre after 1730?

.....
(1)

(Total 4 marks)

13. A charity made an appeal for money.

The charity put the information shown below on a poster.

> **Hunger appeal**
>
> - £3 will buy 5 meals for one person.
> - £100 will buy lunches for 80 school children for 5 days.

£3 will buy 5 meals for one person.

(*a*) Work out the cost of one of the meals.
Give your answer in pence.

..... p
(2)

£100 will buy lunches for 80 school children for 5 days.

(*b*) Work out the cost of buying lunch for one school child for one day.

.....
(3)

(Total 5 marks)

14.

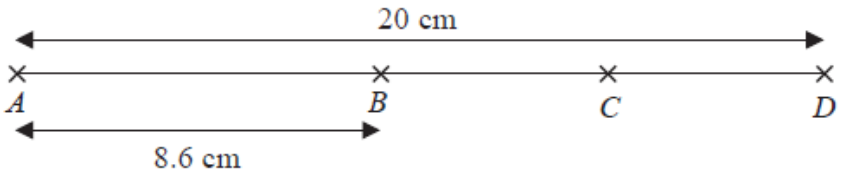


Diagram **NOT** accurately drawn

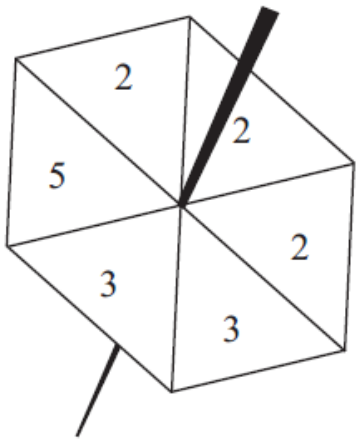
A, *B*, *C* and *D* are points on a straight line.
AD = 20 cm
AB = 8.6 cm
BC = *CD*

Work out the length of *BC*.

..... cm

(Total 3 marks)

15. Meela has a fair 6-sided spinner.
The sides of the spinner are numbered 2, 2, 2, 3, 3, 5.



Meela spins the spinner once.

(*a*) Which number is the spinner **least** likely to land on?

.....

(1)

(*b*) From the following list, choose the word that best describes the likelihood that the spinner will land on 2.

impossible unlikely evens likely certain

.....

(1)

(*c*) Write down the probability that the spinner will land on 3.

.....

(2)

(Total 4 marks)

16. Tom is going to buy 25 plants to make a hedge.

Here is information about the cost of buying the plants.

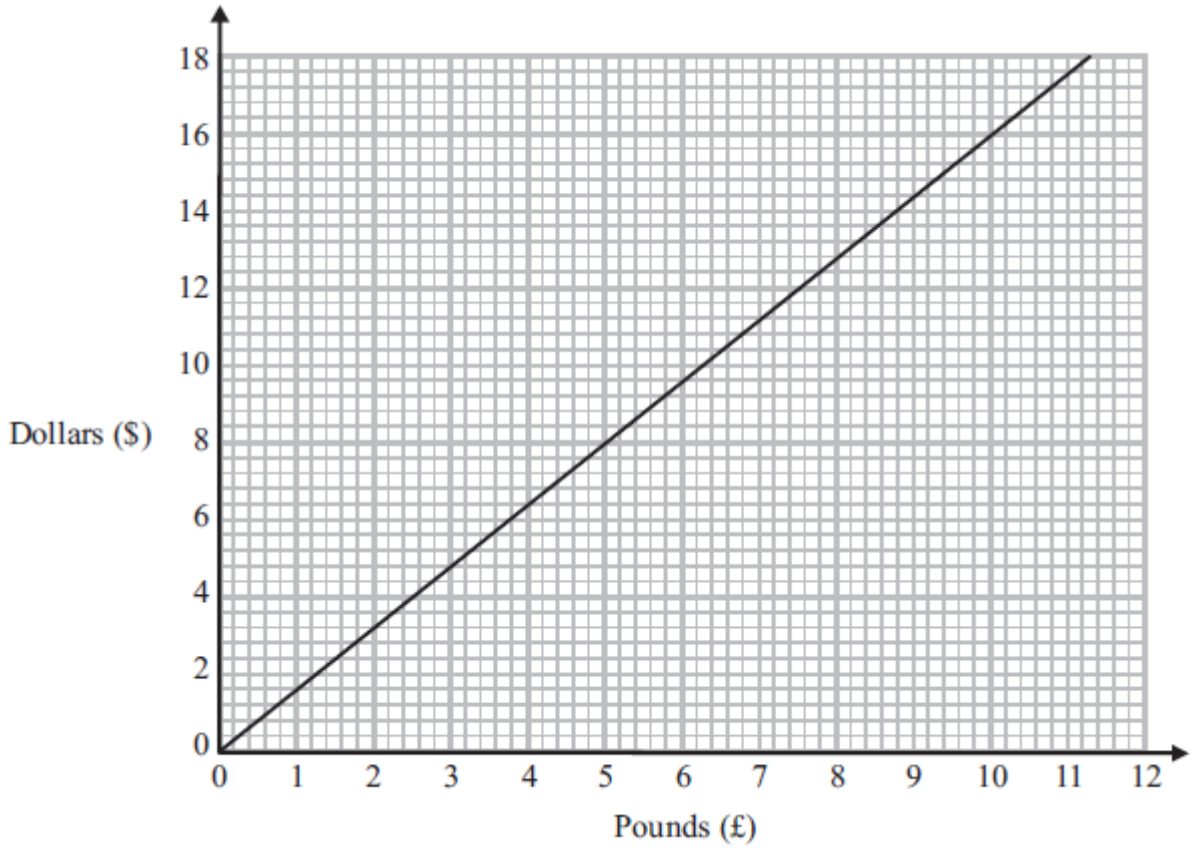
Kirsty's Plants	**Hedge World**
£2.39 each	Pack of 25 £52.50 plus VAT at 20%

Tom wants to buy the 25 plants as cheaply as possible.

Should Tom buy the plants from Kirsty's Plants or from Hedge World?
You must show all your working.

(Total 5 marks)

17. You can use this conversion graph to change between pounds (£) and dollars ($).



(a) Use the conversion graph to change £5 to dollars.

$ .....

(1)

Ella has $200 and £800
Her hotel bill is $600

Ella pays the bill with the $200 and some of the pounds.

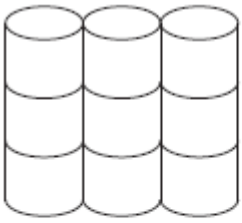
(b) Use the conversion graph to work out how many pounds she has left.

£ .....

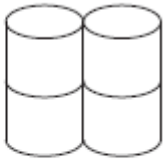
(4)

(Total 5 marks)

18.



Pack of 9 toilet rolls £4.23



Pack of 4 toilet rolls £1.96

A pack of 9 toilet rolls costs £4.23

A pack of 4 toilet rolls costs £1.96

Which pack gives the better value for money?

You must show all your working.

.....

(Total 3 marks)

19. Dylan is driving from London to Newcastle.
He will drive a total distance of 240 miles.

Dylan leaves London at 09:30

It takes him $1\frac{1}{2}$ hours to travel the first 90 miles.

(a) Use this information to estimate the time Dylan will arrive in Newcastle.
You must show how you get your answer.

.....

(3)

(b) Write down **one** assumption you made in your answer to part (a).
If your assumption is wrong, how would this affect your answer to part (a)?

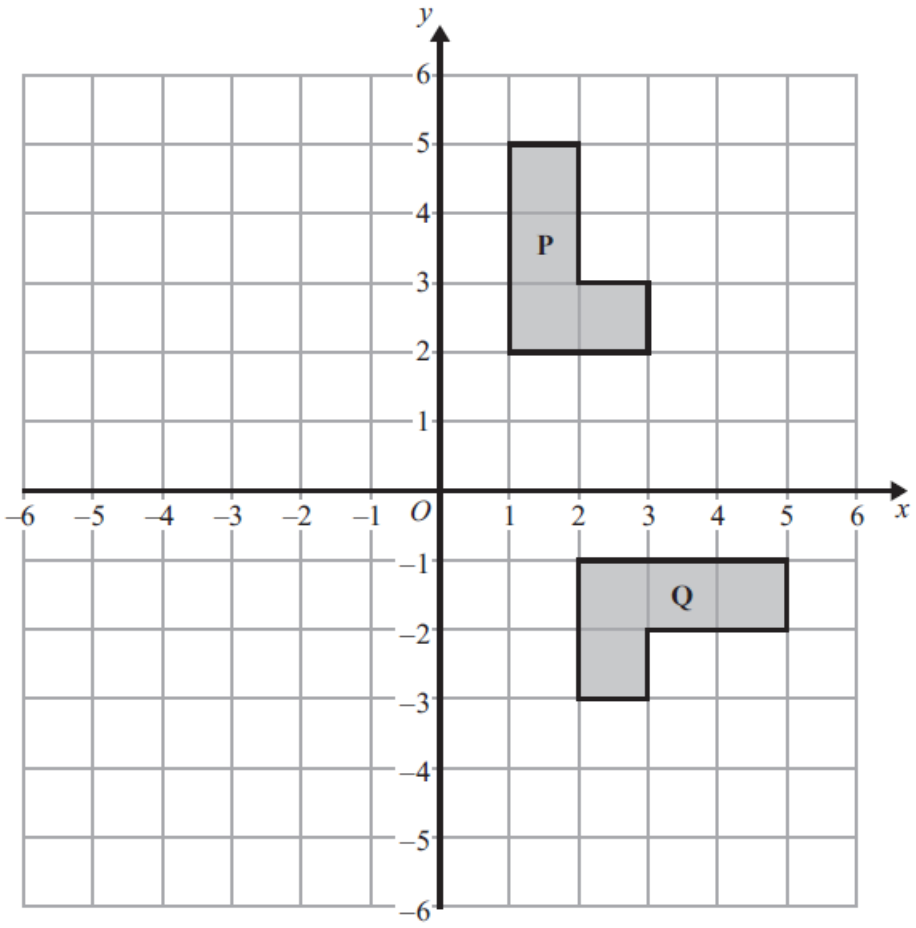
……...……..

..……

(1)

(Total 4 marks)

20.



Describe fully the **single** transformation that maps shape **P** onto shape **Q**.

.....

.....

(Total 3 marks)

21.

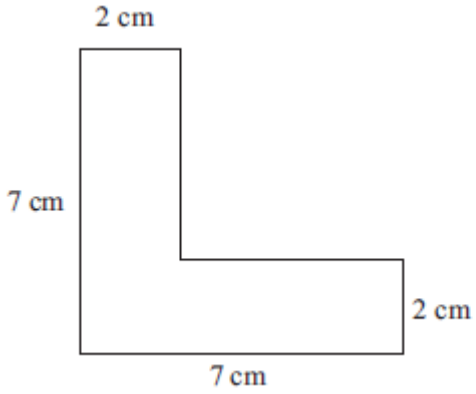


Diagram **NOT** accurately drawn

The diagram shows the cross-section of a solid prism.
The length of the prism is 2 m.

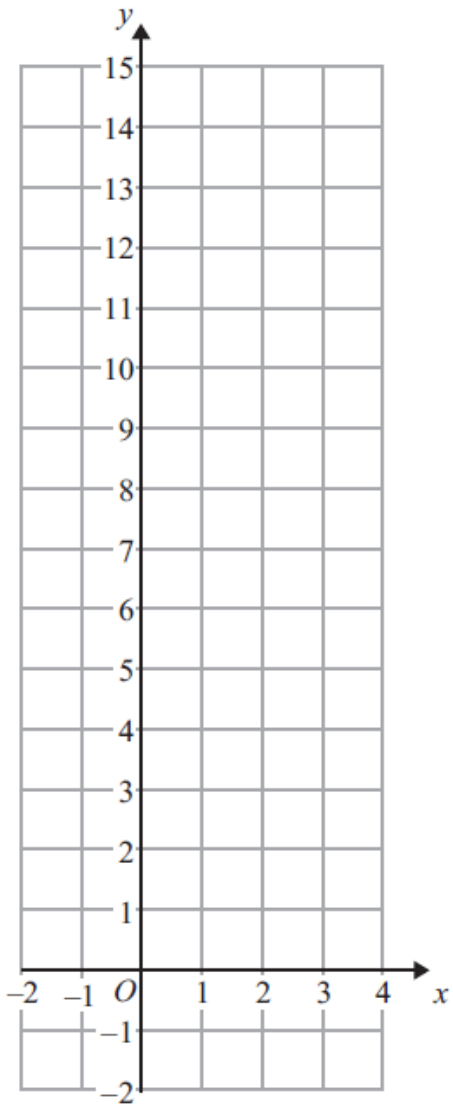
The prism is made from metal.
The density of the metal is 8 grams per cm^3.

Work out the mass of the prism.

.....

(Total 5 marks)

22.



(a) On the grid, draw the graph of $y = 3x + 5$ for values of x from –2 to 3

(3)

(b) Explain why the point (6, 24) does **not** lie on the line $y = 3x + 5$

(2)

(Total 5 marks)

23. Ramesh throws a biased coin.
The probability that the coin will land on a Head is 0.37

(a) Write down the probability that the coin will land on a Tail.

.....

(1)

Ramesh is going to throw the coin 500 times.

(b) Work out an estimate for the number of times that the coin will land on a Head.

.....

(2)

(Total 3 marks)

---

24. Arwen buys a car for £4000
The value of the car depreciates by 10% each year.

Work out the value of the car after two years.

£ .....

(Total 3 marks)

---

25. Write the following numbers in order of size.
Start with the smallest number.

0.038×10^{2} 3800×10^{-4} 380 0.38×10^{-1}

.....

(Total 2 marks)

---

26. There are 18 packets of sweets and 12 boxes of sweets in a carton.

The mean number of sweets in all the 30 packets and boxes is 14.
The mean number of sweets in the 18 packets is 10.

Work out the mean number of sweets in the boxes.

.....

(Total 3 marks)

TOTAL FOR PAPER IS 80 MARKS

BLANK PAGE