edexcel

GCSE Mathematics Practice Tests: Set 3

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.

ALWAYS LEARNING PEARSON

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. Mr Jones gave four of his students a test.
The total number of marks for the test is 80

Jamie got $\frac{1}{2}$ of the marks.

Andy got $\frac{2}{5}$ of the marks.

Robbie got $\frac{3}{4}$ of the marks.

Davy got $\frac{3}{5}$ of the marks.

Write the fractions in order of size.
Start with the smallest fraction.

…….....

(Total 3 mark)

2. Graham has £10
He wants to buy as many pencils as he can.
Each pencil costs 80 pence.

How many pencils can Graham buy?

.....

(Total 3 mark)

---

3. (*a*) Simplify $m + m + m + m$

.....

(1)

(*b*) Simplify $5a - 2a$

.....

(1)

(*c*) Simplify $x \times y \times 4$

.....

(1)

(Total 3 mark)

---

4. (*a*) Write the number 4117 in words.

.....

(1)

(*b*) Write the number 4117 to the nearest hundred.

.....

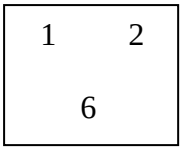
(1)

(Total 2 mark)

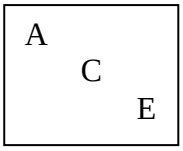
---

5. David takes, at random, a number from Box A.
He then takes, at random, a letter from Box B.

Box A



Box B



(*a*) List all the possible outcomes he could get.

.....

.....

.....

(2)

(*b*) Find the probability that David takes the number 2 and the letter E.

.....

(2)

(Total 4 marks)

6. An ice cream van has this price list.

Price List	
Choc Ice	£1.25
Tub	£1.15
Cone	85p

Mitch only has these three coins.
He has no other money.



Mitch wants to buy a choc ice, a tub and 2 cones.

Has Mitch got enough money?
You must show your working.

(Total 3 marks)

7. Jack and Max share some counters.

Jack has 3 times as many counters as Max.

(*a*) Write down the ratio of the number of counters Jack has to the number of counters Max has.

.....

(1)

(*b*) What fraction of the counters does Max have?

.....

(1)

Sunil has 40 counters.

9 of Sunil's counters are red.

(*c*) What fraction of Sunil's counters are **not** red?

.....

(1)

(Total 3 marks)

8. Which is bigger $\frac{2}{5}$ or 0.6?

Justify your answer.

(Total 3 marks)

---

9. A bag contains only red counters and blue counters.
There are 4 red counters in the bag.

The probability of taking a blue counter is the same as the probability of taking a red counter.

(*a*) How many blue counters are there in the bag?

.....

(1)

In another bag there are 14 counters.
The bag contains only red counters, blue counters and yellow counters. 4 of the counters are red.

The probability of taking a blue counter is twice the probability of taking a red counter.

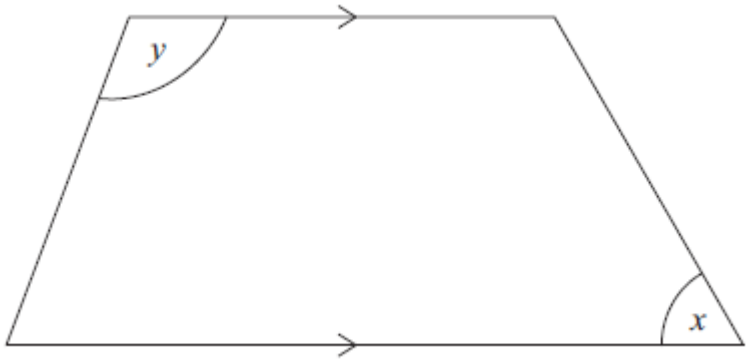
(*b*) How many yellow counters are there in the bag?

.....

(3)

(Total 4 marks)

10.



(*a*) Write down the special name for this quadrilateral.

.....

(1)

(*b*) Measure the size of the angle marked *x*.

.....°

(1)

(*c*) Write down the special name for the angle marked *y*.

.....

(1)

(Total 3 marks)

---

11. Here is part of a bus timetable from Harrow Lane to Cartbridge Street.

Harrow Lane to Cartbridge Street

Harrow Lane	08 02	09 04	10 12	11 02	12 04	12 12
Elm Drive	08 19	09 21	10 29	11 19	12 21	12 29
Hamden Road	08 32	09 34	10 42	11 32	12 34	12 42
Swipe Crescent	08 41	09 43	10 51	11 41	12 43	12 51
Cartbridge Street	08 50	09 52	11 01	11 50	12 52	13 01

A bus goes from Harrow Lane to Cartbridge Street.
The bus leaves Harrow Lane at 08 02

(*a*) At what time should the bus get to Cartbridge Street?

.....

(1)

Here is part of a bus timetable from Cartbridge Street to Harrow Lane.

Cartbridge Street to Harrow Lane

Cartbridge Street	13 11	14 14	15 07	16 11	17 14	18 07
Swipe Crescent	13 20	14 24	15 16	16 20	17 24	18 16
Hamden Road	13 29	14 33	15 25	16 29	17 33	18 25
Elm Drive	13 43	14 47	15 39	16 43	17 47	18 39
Harrow Lane	13 53	14 57	15 49	16 53	17 57	18 49

A bus goes from Cartbridge Street to Harrow Lane.
This bus leaves Hamden Road at 13 29

(*b*) Work out how many minutes this bus should take to go from Hamden Road to Elm Drive.

.....

(1)

Peter lives in Harrow Lane.
His grandmother lives in Swipe Crescent.

Peter visits his grandmother.
He goes by bus from Harrow Lane to Swipe Crescent.

Peter wants to have at least 3 hours with his grandmother.
He needs to be back at Harrow Lane by 16 00

(*c*) Plan Peter's journey to visit his grandmother and get back to Harrow Lane.
You must include the times of the buses.

(4)

(Total 6 marks)

12. On Monday Ravi drives for 4 hours.
His average speed is 30 mph.

(*a*) How far does Ravi drive on Monday?

..... miles

(2)

On Tuesday Ravi drives 200 km.

5 miles = 8 kilometres.

(*b*) On which day did Ravi drive further?

(3)

(Total 5 marks)

13. Here are some patterns made from sticks.



Pattern number 1 Pattern number 2 Pattern number 3

(*a*) Draw Pattern number 4

(1)

(*b*) Complete the table

Pattern number	**Number of sticks**
1	4
2	7
3	10
4	.....
10	.....
.....	76

(3)

(*c*) Find an expression, in terms of *n*, for the number of sticks needed for Pattern number ***n*.**

.....

(2)

(Total 6 marks)

14. Buses to Acton leave a bus station every 24 minutes.
Buses to Barton leave the same bus station every 20 minutes.

A bus to Acton and a bus to Barton both leave the bus station at 9 00 am.

When will a bus to Acton and a bus to Barton next leave the bus station at the same time?

.....

(Total 3 marks)

---

15. (*a*) Expand and simplify $2(x + 3y) + 4(x – y)$

.....

(2)

(*b*) Factorise completely $8p – 12pq$

.....

(2)

(Total 4 marks)

---

16. (*a*) Find the Highest Common Factor (HCF) of 30 and 42.

.....

(2)

(*b*) Find the Lowest Common Multiple (LCM) of 30 and 45.

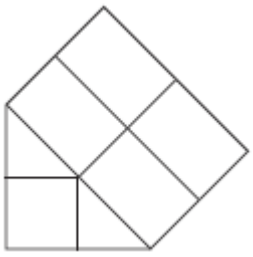
.....

(2)

(Total 4 marks)

---

17. Here is a prism.
It is made by cutting a solid cube of side 2 cm in half.



Find the volume of the prism.

.....

(Total 3 marks)

---

18. Here are the ingredients needed to make **8** shortbread biscuits.

Shortbread biscuits
makes **8** biscuits
120 g butter
60 g caster sugar
180 g flour

Tariq is going to make some shortbread biscuits.
He has the following ingredients

330 g butter 200 g caster sugar 450 g flour

Work out the greatest number of shortbread biscuits that Tariq can make with his ingredients.
You must show all your working.

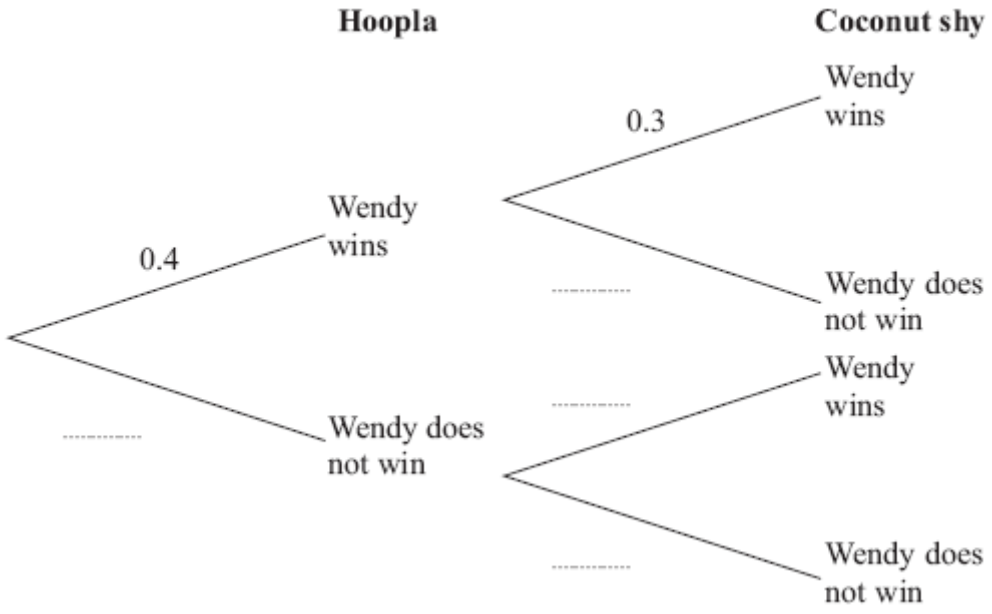
..... biscuits

(Total 3 marks)

19. Wendy goes to a fun fair.
She has one go at Hoopla.
She has one go on the Coconut shy.

The probability that she wins at Hoopla is 0.4
The probability that she wins on the Coconut shy is 0.3

(*a*) Complete the probability tree diagram.



(2)

(*b*) Work out the probability that Wendy wins at Hoopla and also wins on the Coconut shy.

.....

(2)

(Total 4 marks)

20. Railtickets and Cheaptrains are two websites selling train tickets.

Each of the websites adds a credit card charge and a booking fee to the ticket price.

Railtickets
Credit card charge: 2.25% of ticket price
Booking fee: 80 pence

Cheaptrains
Credit card charge: 1.5% of ticket price
Booking fee: £1.90

Nadia wants to buy a train ticket.
The ticket price is £60 on each website.
Nadia will pay by credit card.

Will it be cheaper for Nadia to buy the train ticket from Railtickets or from Cheaptrains?

(Total 4 marks)

21. (*a*) Write 0.00385 in standard form.

.....

(1)

(*b*) Write 7.291×10^5 as an ordinary number.

.....

(1)

(*c*) Work out $(2.4 \times 10^{10}) \div (6 \times 10^{-2})$
Give your answer in standard form.

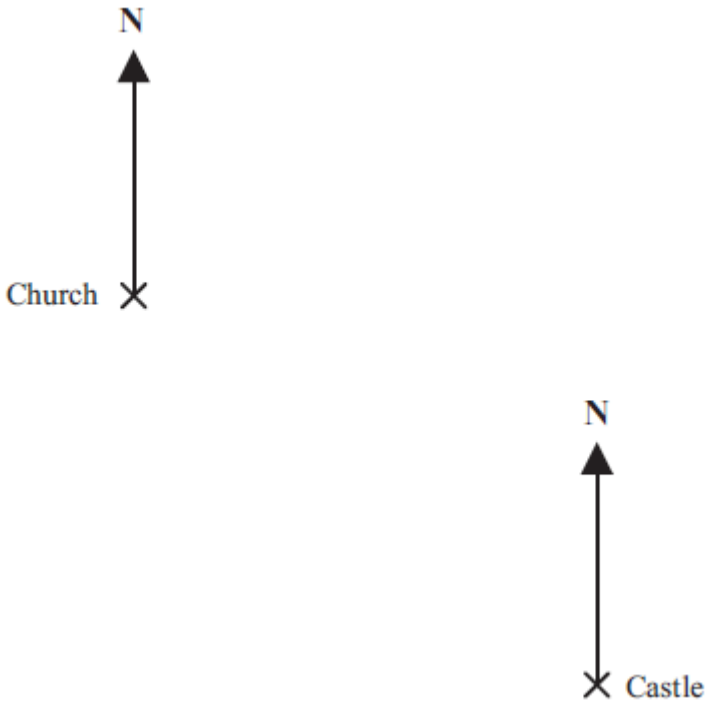
.....

(2)

(Total 4 marks)

---

22. The diagram shows part of a map.
It shows the positions of a castle and a church.



The scale of the map is 1:10 000

(*a*) Work out the real distance between the castle and the church.
Give your answer in metres.

..... m

(2)

(*b*) Find the bearing of the castle from the church.

.....°

(1)

(Total 3 marks)

TOTAL FOR PAPER IS 80 MARKS