edexcel

GCSE Mathematics Practice Tests: Set 4

Paper 3F (Calculator)

Time: 1 hour 30 minutes

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

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 may 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

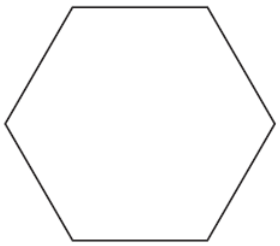
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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1.



(*a*) Write down the mathematical name of this polygon.

.....

(1)

(*b*) How many sides has an octagon?

.....

(1)

(Total 2 marks)

---

2. Samantha has to go to a meeting.

The meeting should start at 2 p.m.
Samantha gets to the meeting at 1 45 p.m.

(*a*) How long does Samantha have to wait until 2 p.m?

.....
(2)

The 2 p.m. meeting starts 10 minutes late.
The meeting lasts 55 minutes.

(*b*) Work out the time the meeting finishes.

.....
(2)

Samantha then has to go to a 4 p.m. meeting.
It will take Samantha 75 minutes to get to this meeting.

(*c*) Can Samantha get to this meeting by 4 p.m?
You must show how you get your answer.

(2)

(Total 6 marks)

3. Angie is organising a party for 84 adults and 42 children.

At 8pm all the adults and all the children will sit down at tables for a meal.
6 people will sit at each table.

(*a*) Work out the number of seats and the number of tables Angie will need.

..... seats

..... tables
(3)

Each adult meal will cost £4.50.
Each child meal will cost £2.50.

Angie has £500 to pay for the meals.

(*b*) Does Angie have enough money to pay for the meals for 84 adults and 42 children?
You must show all your working.

.....
(3)

(Total 6 marks)

4. Ben thinks of a number.
He adds 7 to his number.
His answer is 18

(a) What number did Ben first think of?

.....

(1)

Josie thinks of a number.
She divides her number by 6
She then adds 13
Her answer is 16

(b) What number did Josie first think of?

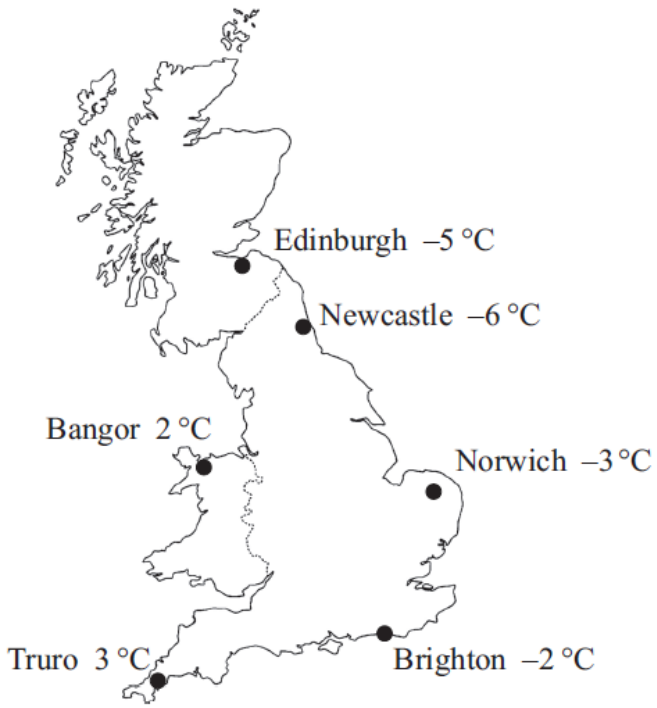
.....

(2)

(Total 3 marks)

5. Here is a map of Great Britain.

The map shows the temperatures in some cities at midnight on 20th January.



(*a*) Which city had the lowest temperature at midnight?

.....

(1)

In Brighton, the temperature rose by 5°C between midnight on 20th January and midday on 21st January.

(*b*) What was the temperature in Brighton at midday on 21st January?

.....°C

(1)

At midnight on 20th January, the temperature in Nottingham was halfway between the temperature in Truro and the temperature in Edinburgh.

(*c*) Which city had the lowest temperature in Nottingham?

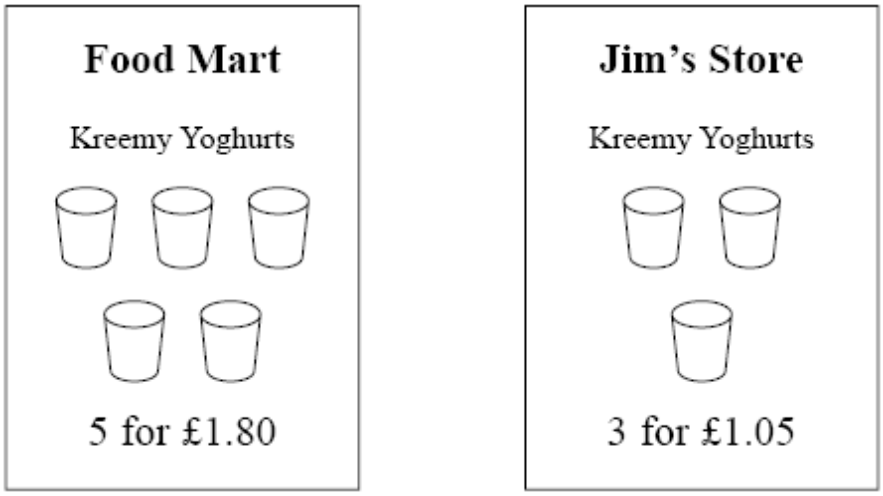
.....°C

(2)

(Total 4 marks)

---

6. Two shops, Food Mart and Jim's Store, both sell Kreemy Yoghurts.



At which shop are Kreemy Yoghurts the better value for money?
You must show all your working.

.....

(Total 3 marks)

7. Here is a solid prism made from centimetre cubes.

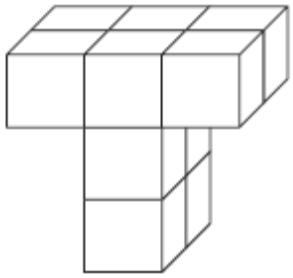


Diagram **NOT** accurately drawn



1 cm^3

Find the volume of the prism.

..... cm^3

(Total 1 mark)

---

8. A family went on holiday to Miami.
They travelled from London by plane.

The distance from London to Miami is 7120 km.
The plane journey took 8 hours.

Calculate the average speed of the plane.

.....km/h

(Total 2 marks)

---

9. (*a*) Solve $x + 4 = 17$

$x =$ .....
(1)

(*b*) Simplify $4e + 6f + 3e - 2f$

.....
(2)

(*c*) Factorise $6w + 15$

.....
(1)

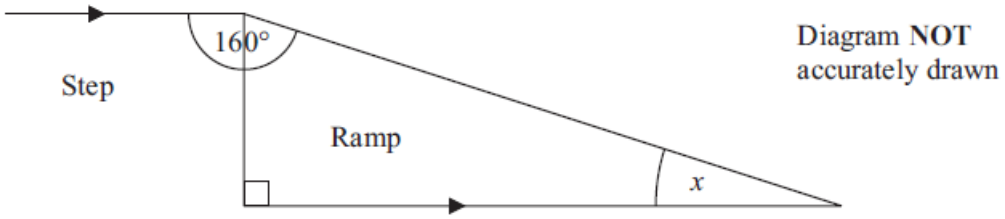
(*d*) Expand and simplify $(x + 4)(x + 7)$

.....
(2)

(Total 6 marks)

---

10. The diagram shows a ramp next to a step.



(i) Work out the size of the angle marked x.

x = ...°

(ii) Give a reason for your answer.

.....

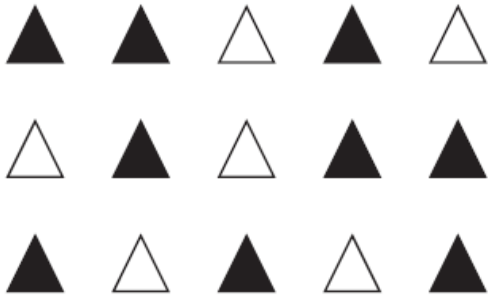
.....

.....

.....

(Total 3 marks)

11. Here are some triangles.



(a) What fraction of these triangles are shaded?
Give your fraction in its simplest form.

.....

(2)

Tony takes some of these triangles.
He takes shaded triangles and unshaded triangles in the ratio 2 : 1

(b) Work out the greatest number of unshaded triangles he could take.

.....

(2)

(Total 4 marks)

12. (*a*) Simplify $(p^3)^2$

.....

(1)

(*b*) Simplify $\frac{t^8}{t^3}$

.....

(1)

$2^3 \times 2^n = 2^9$

(*c*) Work out the value of *n*.

.....

(1)

$2x^3 = 128$

(*d*) Work out the value of *x*.

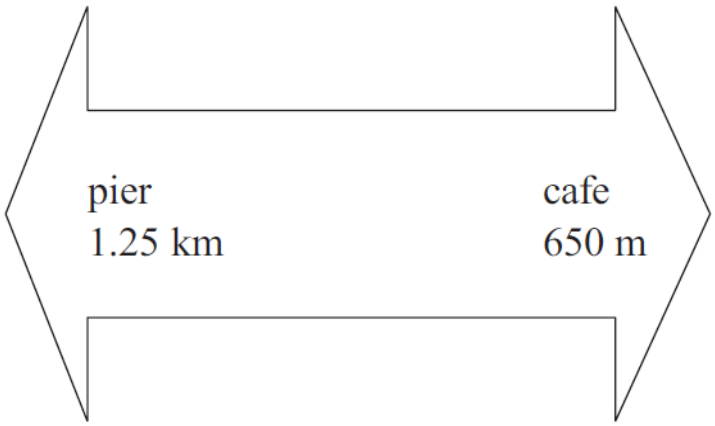
.....

(1)

(Total 4 marks)

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13. John is walking along a path.
He sees this sign.

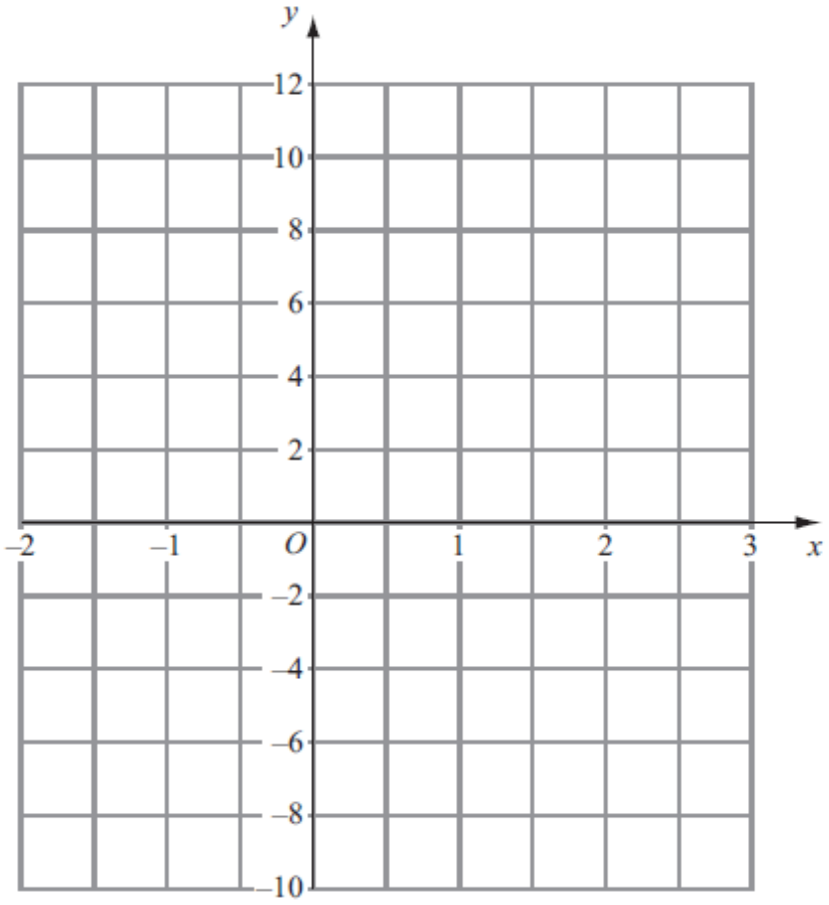


How far is it from the pier to the cafe along the path?

.....

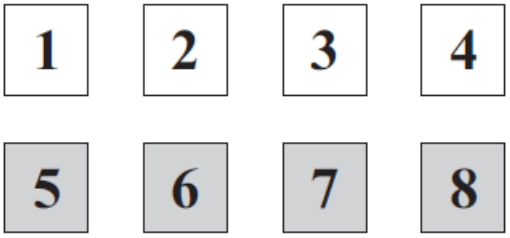
(Total 3 marks)

14. On the grid, draw the graph of $y = 4x - 2$



(Total 3 marks)

15. Mark has 4 white cards and 4 grey cards.
There is a number on each card, as shown below.



Mark mixes up the white cards.
He puts the cards on the table so that the numbers are hidden.

Mark mixes up the grey cards.
He puts the cards on the table so that the numbers are hidden.

Mark and Jean play a game with all of these cards.

Mark asks Jean to take at random one white card and one grey card.

(a) Write down all the possible combinations of the pairs of numbers that Jean can take.

.....

.....

.....

.....

(2)

Jean wins the game when the numbers on the two cards add up to more than 9

Mark and Jean are going to play this game 80 times.
Mark will mix up the white cards and mix up the grey cards after each game.

(b) Estimate the number of games that Jean will win.

.....

(3)

(Total 5 marks)

16. (a) Simplify $(c^2 k^5)^4$

.....

(1)

(b) Expand and simplify $(3x + 5)(4x - 1)$

.....

(2)

(c) Solve $x^2 - 3x - 10 = 0$

$x =$ .....

(3)

(Total 6 marks)

---

17. The length, L m, of a plane is measured as 37 m correct to the nearest metre.

Complete the statement below to show the range of possible values of L.

..... $\leq L <$ .....

(Total 2 marks)

---

18. A baker makes jam rolls.

The baker uses flour, butter and jam in the ratio 8 : 4 : 5 to make jam rolls.

The table shows the cost per kilogram of some of these ingredients.

Cost per kilogram	
Flour	40p
Butter	£2.50
Jam	£1.00

The total weight of the flour, butter and jam for each jam roll is 425 g.

Work out the cost of these ingredients for 200 jam rolls.

£.....

(Total 6 marks)

19.

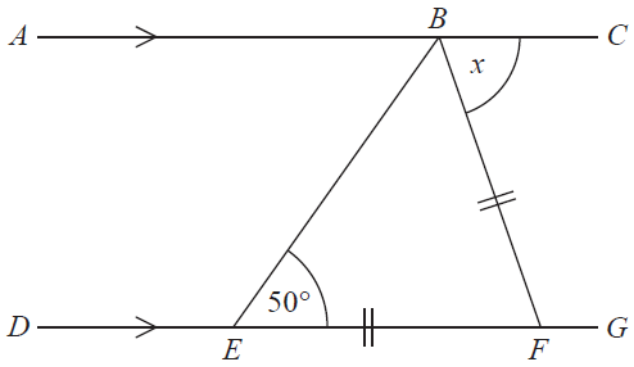


Diagram **NOT** accurately drawn

ABC is a straight line.
DEFG is a straight line.
AC is parallel to *DG*.
EF = *BF*.
Angle *BEF* = 50°.

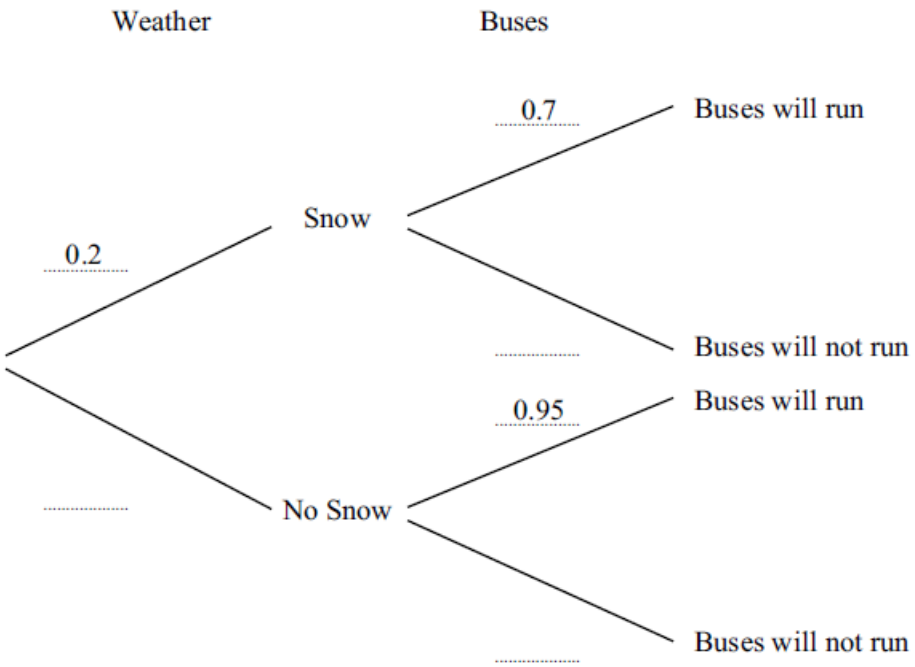
Work out the size of the angle marked *x*.
Give reasons for your answer.

..... °

(Total for Question 7 is 4 marks)

20. The decision tree diagram gives information about the probability of snow for the first 50 days in winter and the probability of whether buses will run or not run.

(a) Complete the decision tree diagram.



(2)

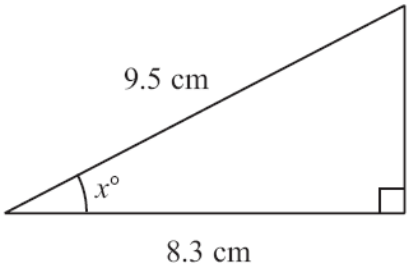
(b) Work out the probability that it will snow and the buses will not run.

.....

(2)

(Total 4 marks)

21.



Work out the value of x.
Give your answer correct to 1 decimal place.

x = ...

(Total 3 marks)

TOTAL FOR PAPER IS 80 MARKS