Collins

Edexcel

GCSE

Mathematics

SET B – Paper 1 Foundation Tier (Non-Calculator)

F

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Time allowed: 1 hour 30 minutes

You must have:

- Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

You may not use a calculator

Instructions

- Use **black** ink or black ball-point pen.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may 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.*
- 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.

Name: ....

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1   How many metres are there in 3.5 kilometres?

2   Here are five numbers.

    8   9   5   7   2

(a) Work out the range of the five numbers.

(1)

(b) Work out the median.

(1)

(Total for Question 2 is 2 marks)

3 40 people are asked to comment on the service in a restaurant.

The **pictogram** shows some of the results.

Excellent	● ● ● ● ◟
Very Good	● ● ◖
Average	● ◖
Poor	●
Very Poor	

17 people said the service was excellent.

(a) Complete the key below.

　　● represents _____ people

(1)

(b) How many people said the service was very good?

(1)

(c) How many people said the service was average or better?

(2)

(d) Complete the pictogram.

(2)

(Total for Question 3 is 6 marks)

4 **(a)** Work out 736 + 249

....

(1)

(b) Work out 323 – 156

....

(1)

(c) Work out 6 × 23

....

(1)

(d) Work out 128 ÷ 4

....

(1)

(Total for Question 4 is 4 marks)

5 In a game a prize is hidden in one of 12 boxes.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Mia is playing the game.

She is told that the prize:

is not in a box that is a multiple of 3

is in a box that is a prime number

is nearer to box 1 than box 12.

Which boxes could the prize be in?

....

(Total for Question 5 is 2 marks)

6 Mary is catching a train from Denby Dale to Manchester Airport.

She has to change trains in Huddersfield.

Here are two train timetables.

Denby Dale	06:24	07:24	08:24	09:24	10:24
Huddersfield	06:52	07:52	08:52	09:52	10:52

Huddersfield	07:02	08:02	08:35	09:16	10:02
Manchester Airport	07:50	08:50	09:25	10:05	10:50

(a) Mary's plane is due to take off at 12:30

She needs to be at the airport **3** hours **before** the flight is due to take off.

What is the time of the **latest** train she can catch from Denby Dale?

Circle your answer.

06:24   07:24   08:24   09:24   10:24

(1)

(b) Arthur is meeting someone at the airport.

He plans to get to the airport at 10:05

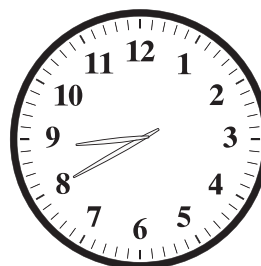He catches the 08:24 from Denby Dale.

How long is his journey to the airport?

(2)

(c) Zak is at Huddersfield Station.

He looks at his watch.

How long will he have to wait for the next train to Manchester Airport?

(2)

(Total for Question 6 is 5 marks)
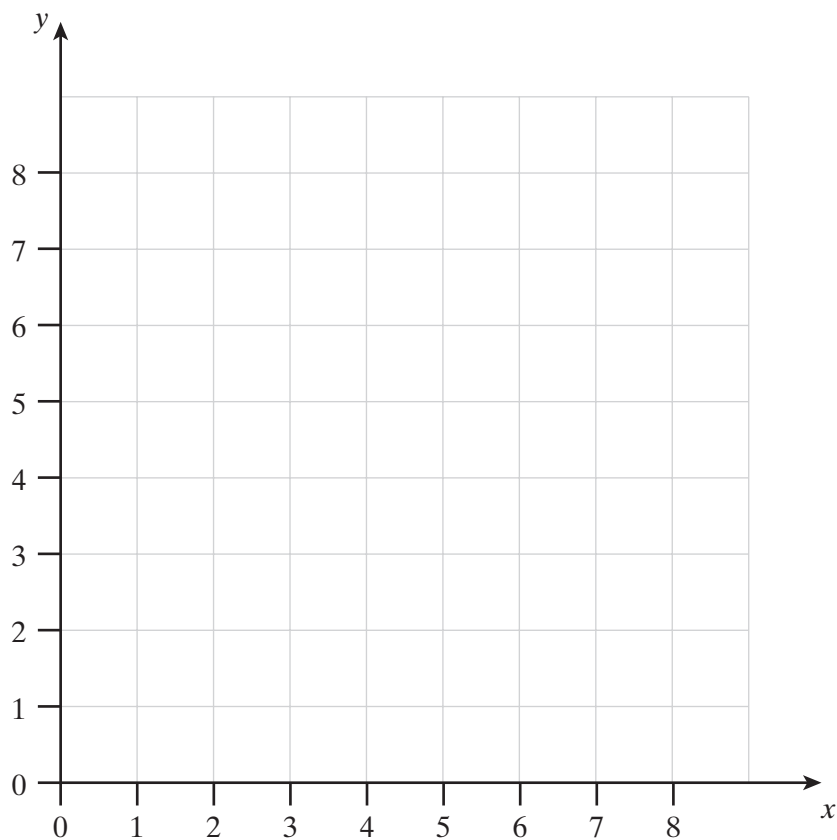
7   Eggs are delivered in trays containing 24 eggs.

A hotel orders 32 trays.

How many eggs do they order?

....

(Total for Question 7 is 3 marks)

8 $A(1, 2)$, $B(2, 6)$, $C(8, 6)$ and $D(7, 2)$ are the four vertices of a quadrilateral.

(a) Draw the quadrilateral on the centimetre grid.

(2)

(b) What type of quadrilateral is $ABCD$?

....

(1)

(c) Work out the area of $ABCD$.

....

(2)

(Total for Question 8 is 5 marks)

9 Show that the fraction $\dfrac{8}{15}$ is between $\dfrac{1}{3}$ and $\dfrac{3}{5}$

....

....

....

....

(Total for Question 9 is 2 marks)

10 **(a)** Simplify $7a + 6a - 5a$

....

(1)

(b) Simplify fully $2 \times 3m + 6 \times 5m$

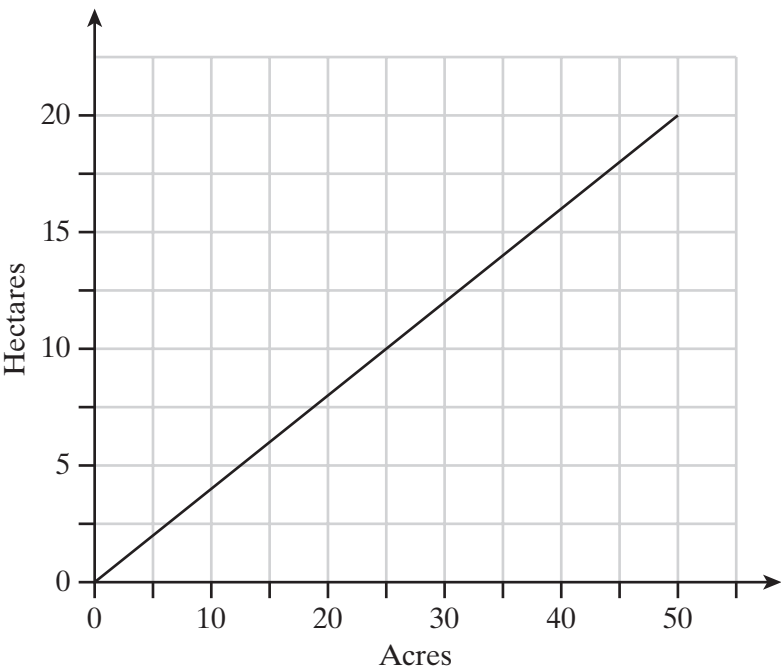...

(2)

(Total for Question 10 is 3 marks)

11   The conversion graph compares acres to hectares.

Acres are a measurement of area that is commonly used in Britain.

Hectares are a metric unit of area.

(a) How many acres are there in 15 hectares?

....

(1)

(b) A farm is for sale.

It has an area of 100 acres.

Farmland has an average cost of £25 000 per hectare.

Approximately how much will the farm cost?

£ ....

(3)

(Total for Question 11 is 4 marks)

12 56 men and 66 women were asked if they could swim.

$\dfrac{4}{7}$ of the men said yes

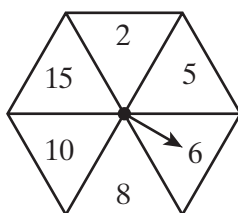$\dfrac{9}{11}$ of the women said yes

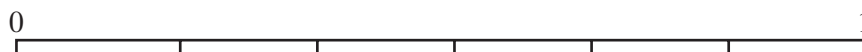How many of the people asked could swim?

You **must** show your working.

13 **(a)** Here is a fair spinner.

On the probability scale show the probability that the spinner lands on an odd number.

0 ————————————————————————— 1

(1)

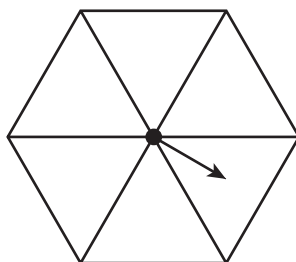**(b)** On this fair spinner write numbers in each sector so that:

the probability of the arrow landing on an odd number is $\frac{1}{2}$

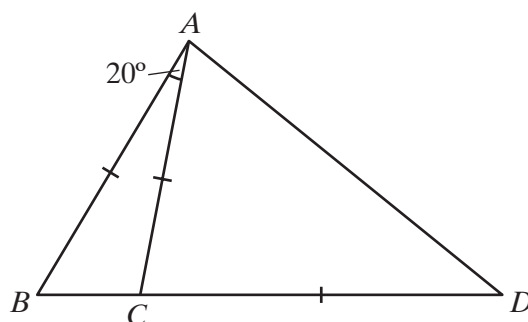the probability of the arrow landing on a multiple of 3 is $\frac{1}{3}$

(2)

(Total for Question 13 is 3 marks)

14 ABC and ACD are triangles.

$AC = CD = AB$

BCD is a straight line.

Angle $BAC = 20°$

Not drawn
accurately
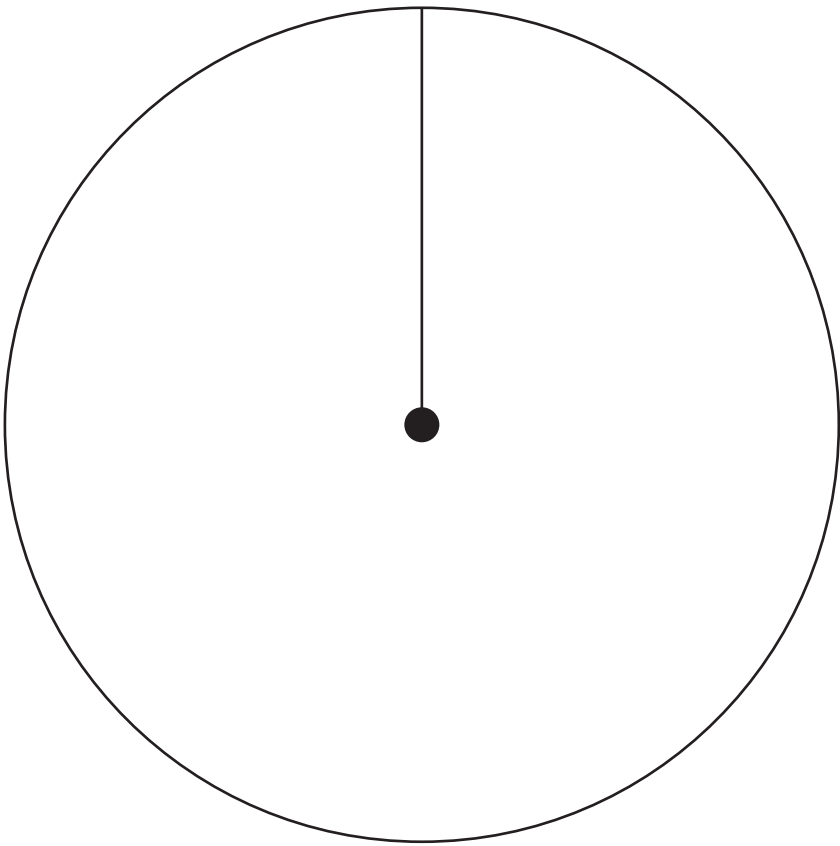
Work out the size of angle CDA.

....°

(Total for Question 14 is 3 marks)

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15 Here is some information about the colour of cars in a car park.

Colour	Frequency
Blue	7
Silver	8
Red	10
White	5
Green	6

Draw a fully labelled pie chart to show this information.

(Total for Question 15 is 4 marks)

16 A cylinder has a base diameter of 20 cm and a height of 8 cm.

Calculate the volume of the cylinder.
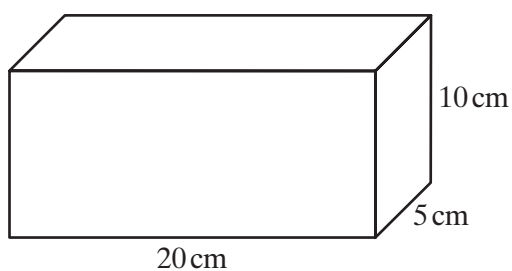
Give your answer in terms of π.

.... cm^3

(Total for Question 16 is 2 marks)

17 Solve $3(x - 2) + 4 = \dfrac{x}{2}$

18 Work out the surface area of the cuboid shown.

10 cm

5 cm

20 cm

.... cm^2

19 Expand and simplify $4(x + 1) - 2(3x - 4)$

....

(Total for Question 19 is 3 marks)

20 Part of a regular polygon is shown.
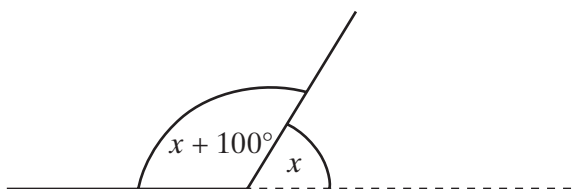
How many sides does the polygon have?

....

(Total for Question 20 is 3 marks)

21 The graph of $y = 2x^2 - 3x - 5$ is shown.
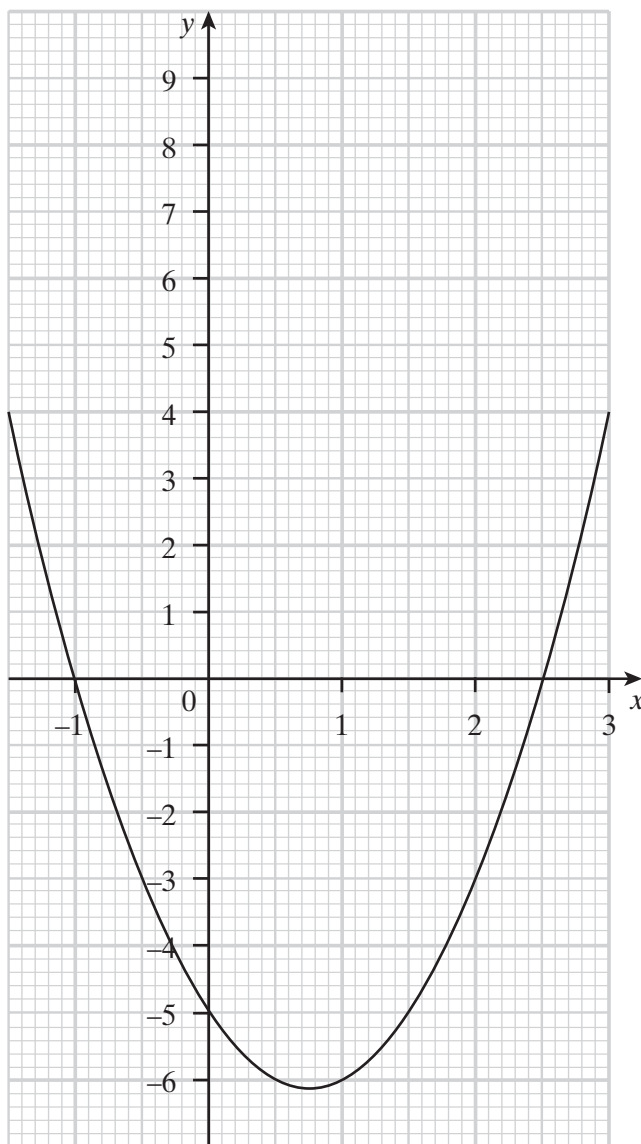
(a) Write down the values of x when $y = 4$.

$x =$ ....

(2)

(b) Write down the coordinates of the minimum point.

....

(1)

(Total for Question 21 is 3 marks)

22 (a) Write 2.3×10^5 as an ordinary number.

....

(1)

(b) Write 0.0005 in standard form.

....

(1)

(c) Work out $2 \times 10^4 \times 8 \times 10^3$

Give your answer in standard form.

....

(2)

(Total for Question 22 is 4 marks)

23 Solve the inequality $3n + 7 > n - 4$

....

(Total for Question 23 is 3 marks)

24 Here is a right-angled triangle *PQR*.

Not drawn accurately
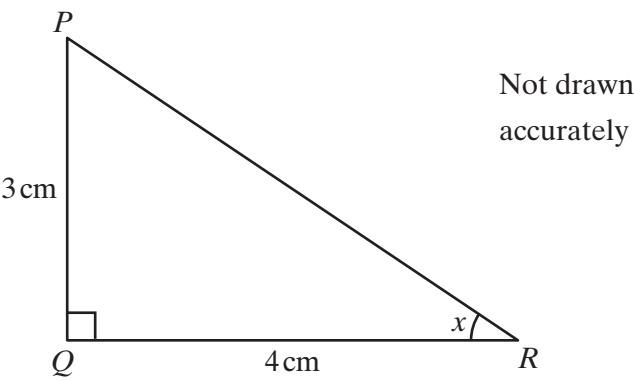
Write down the value of the tangent of angle *x*.

$x =$ _____

(Total for Question 24 is 1 mark)

25 Here is a square.

$(x + 2)$ cm

$(2x - 1)$ cm

Not drawn accurately
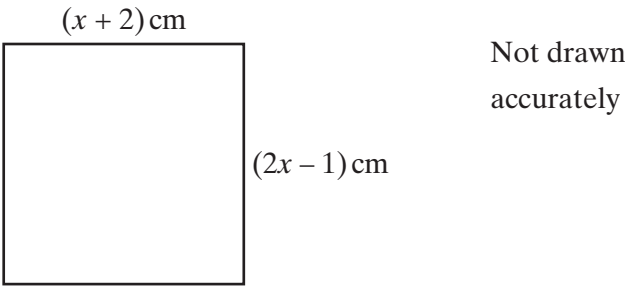
Work out the area.

You **must** show your working.

_____ cm^2

(Total for Question 25 is 5 marks)

TOTAL FOR PAPER IS 80 MARKS