A

AQA

Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

GCSE
MATHEMATICS

F

Foundation Tier **Paper 1 Non-Calculator**

8300/1F

Tuesday 19 May 2020 **Morning**

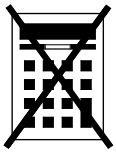
Time allowed: 1 hour 30 minutes

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]

For this paper you must have:
- **mathematical instruments.**

You must NOT use a calculator.



INSTRUCTIONS

- **Use black ink or black ball-point pen. Draw diagrams in pencil.**
- **Answer ALL questions.**
- **You must answer the questions in the spaces provided. Do not write on blank pages.**
- **If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).**
- **Do all rough work in this book. Cross through any work you do not want to be marked.**

INFORMATION

- **The marks for questions are shown in brackets.**
- **The maximum mark for this paper is 80.**
- **You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.**

ADVICE

In all calculations, show clearly how you work out your answer.

DO NOT TURN OVER UNTIL TOLD TO DO SO

Answer ALL questions in the spaces provided.

1 **Here are some numbers.**

5 5 8 13 14 15 17

Circle the range. [1 mark]

5 11 12 13

2 **Circle the value of the digit 5 in 256 934**
[1 mark]

5000 500 000 50 50 000

3 **Work out –2 – 5**

Circle your answer. [1 mark]

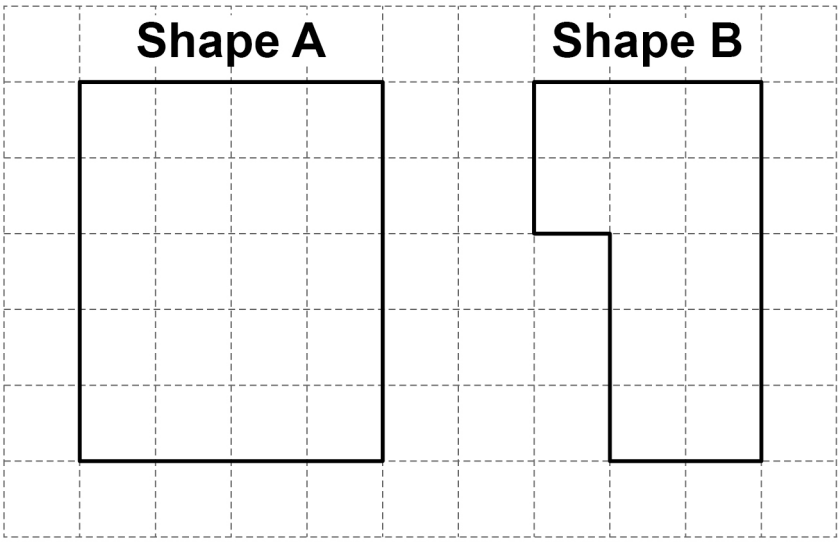
–7 –3 3 7

4 What is 680 millimetres in centimetres?

Circle your answer. [1 mark]

0.68 cm 6.8 cm 68 cm 6800 cm

5



Work out area of Shape A : area of Shape B

Give your answer in its simplest form. [2 marks]

Answer _____ : _____

6 (a) Samir and Dan run a race.

Samir finishes in $2\frac{1}{2}$ minutes.

Dan finishes in 130 seconds.

Complete the following sentence. [2 marks]

_____ wins by

_____ seconds.

6 (b) Alice does a sponsored walk.

She starts from home on Monday at 8 am

She arrives back home 55 hours later.

Work out when she arrives back home.
[2 marks]

_____

_____

_____

_____

Day _____

Time _____

[Turn over]

7 **Work out** $(43 \times 8) - (234 \div 6)$ **[3 marks]**

Answer _____

7

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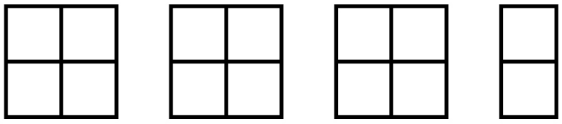
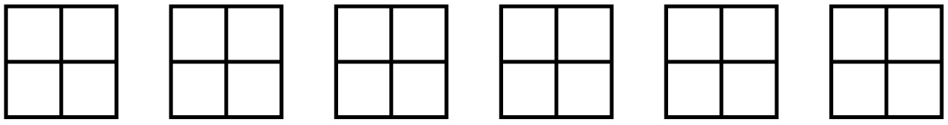
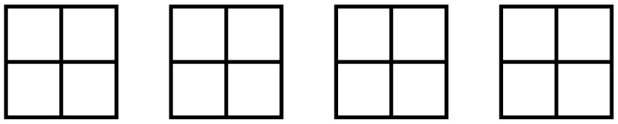
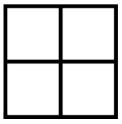
[Turn over]

8 **Here is some information, by ticket type, about the number of people visiting a cinema one week.**

Adults	
Students	
Children	

KEY:  **represents 40 people**

8 (a) How many children visited the cinema? [1 mark]

_____

_____

_____

Answer _____

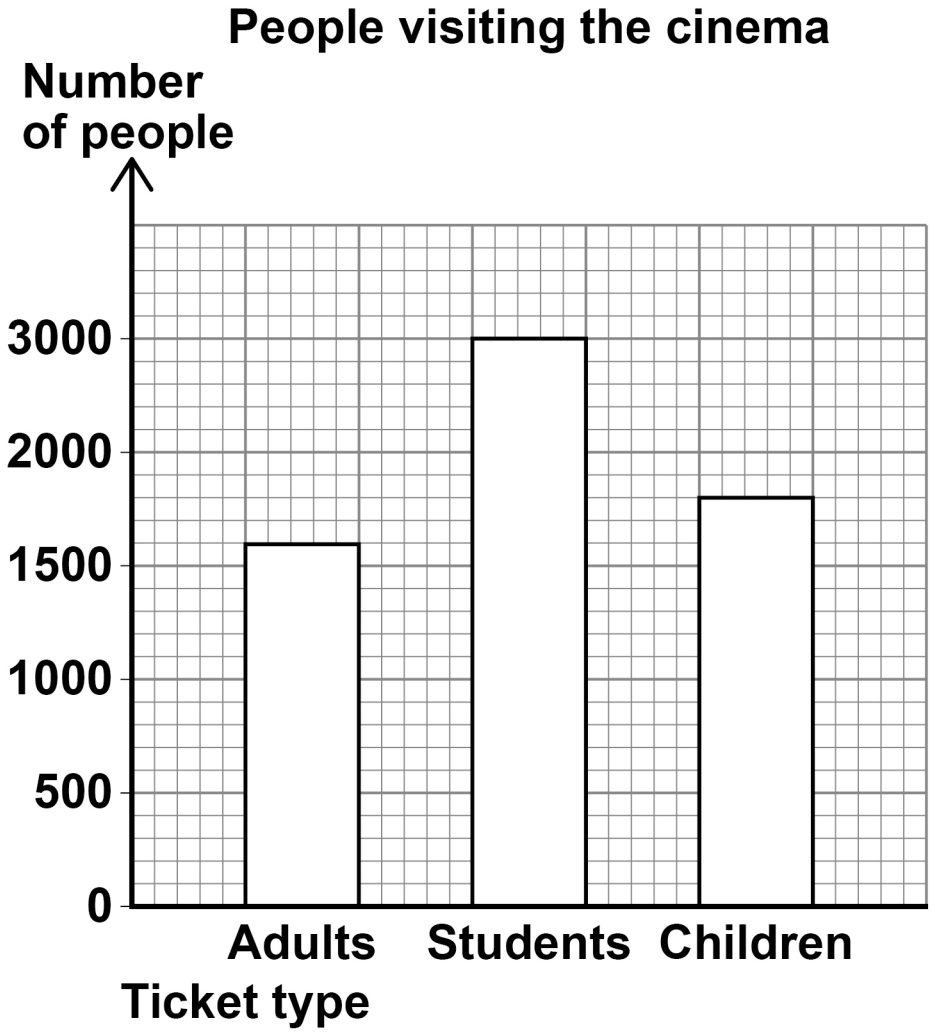
8 (b) How many MORE students than adults visited the cinema? [2 marks]

Answer _____

[Turn over]

8 (c) A bar chart is drawn to show the number of people visiting the cinema one month.

Ticket type	Number of people
Adults	1600
Students	3000
Children	1800



Give ONE criticism of the bar chart. [1 mark]

_____

_____

_____

[Turn over]

4

9 Harry will pay income tax if he earns more than £12 500 in a year.

After 8 months he has earned a TOTAL of £7600

For the rest of the year he earns £1200 each month.

Will he pay income tax?

You MUST show your working. [3 marks]

10 x **is a 2-digit whole number.**

How many digits does the number 10x have?

Circle your answer. [1 mark]

cannot tell **2** **3** **4**

[Turn over]

11 (a) Circle the answer to 50 × 0.2 [1 mark]

1 10 100 1000

11 (b) Work out 3.65 ÷ 5

Give your answer as a decimal. [2 marks]

Answer _____

7

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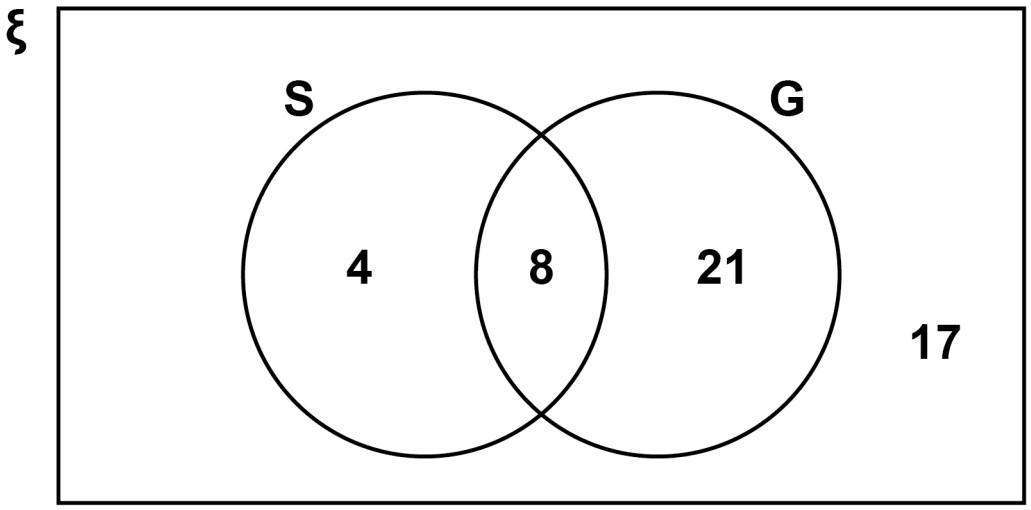
[Turn over]

12 **The Venn diagram shows information about 50 people who are in bands.**

S = singers **G = guitar players**



12 (a) **How many of the people are guitar players? [1 mark]**

Answer _____

12 (b) **How many of the people are singers but NOT guitar players? [1 mark]**

Answer _____

12 (c) One of the people is chosen at random.

Write down the probability that the person is

NOT a singer

and

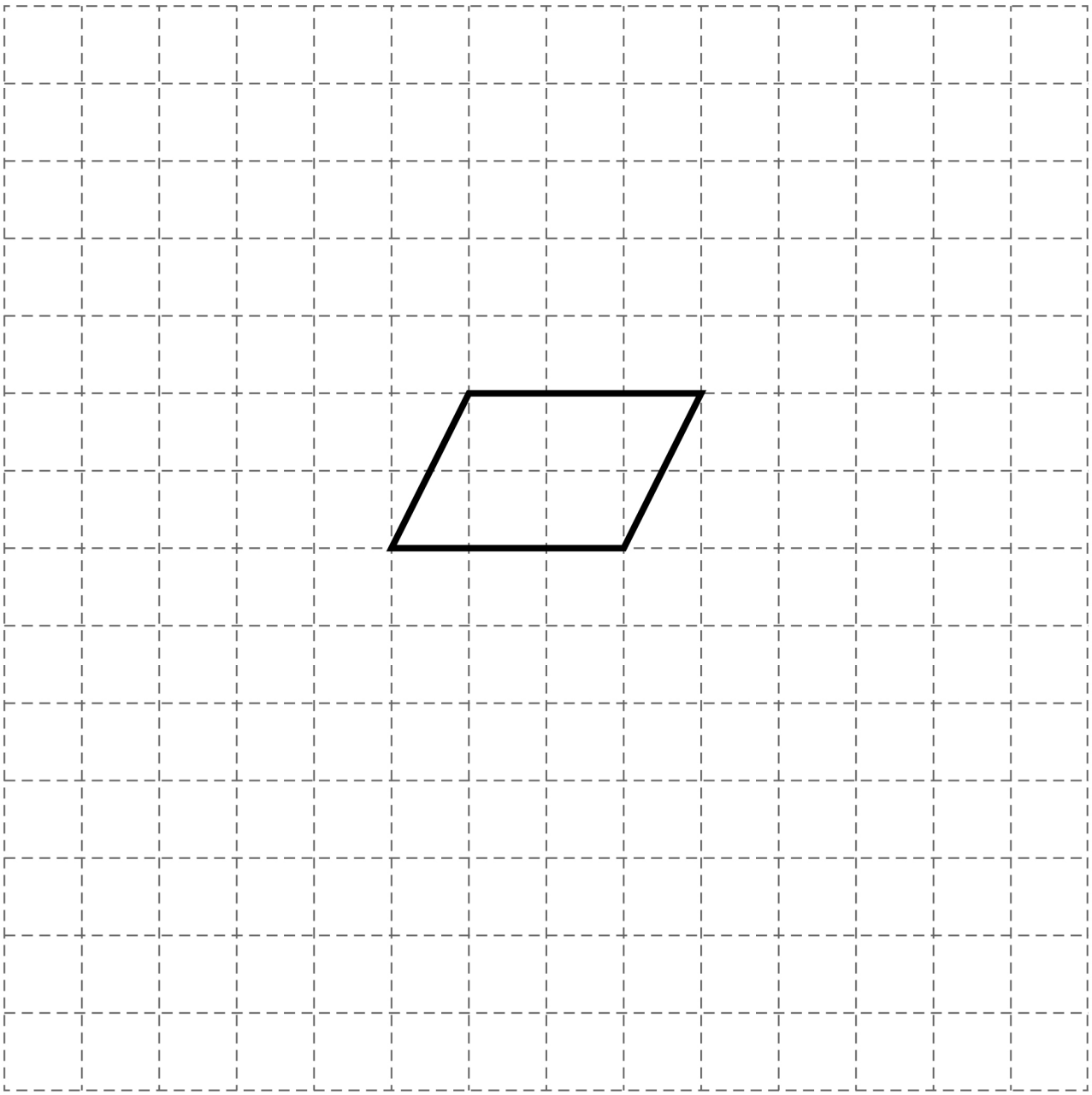
NOT a guitar player.

[1 mark]

Answer _____

[Turn over]

13 Here is a parallelogram.



The parallelogram is translated 4 squares to the left and 3 squares up.

Draw the translated parallelogram. [2 marks]

5

14 (a) Solve $6x - 11 = 13$ **[2 marks]**

$x =$ _____

14 (b) Simplify fully $(2 \times 4a) + 9 + \frac{15a}{3} - 7$

[3 marks]

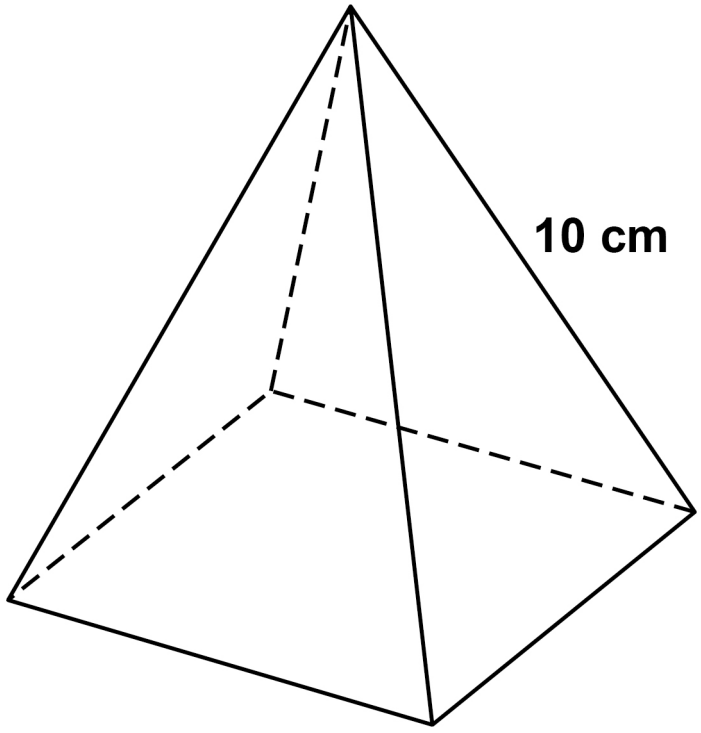
Answer _____

[Turn over]

15 A pyramid has a square base.

Each of the four sloping edges has length 10 cm

The diagram is not drawn accurately.



The total length of all eight edges is 68 cm

Work out the AREA of the square base. [4 marks]

Answer _____ **cm^2**

[Turn over]

9

16 The table shows information about how 150 students travel to school.

	Walk	Bus	Car	
Girls	22	33	17	Total = 72
Boys	24	41	13	Total = 78

16 (a) What fraction of the GIRLS walk to school?

Give your answer in its simplest form. [2 marks]

Answer _____

16 (b) One of the BOYS is chosen at random.

What is the probability that the boy travels to school by bus? [1 mark]

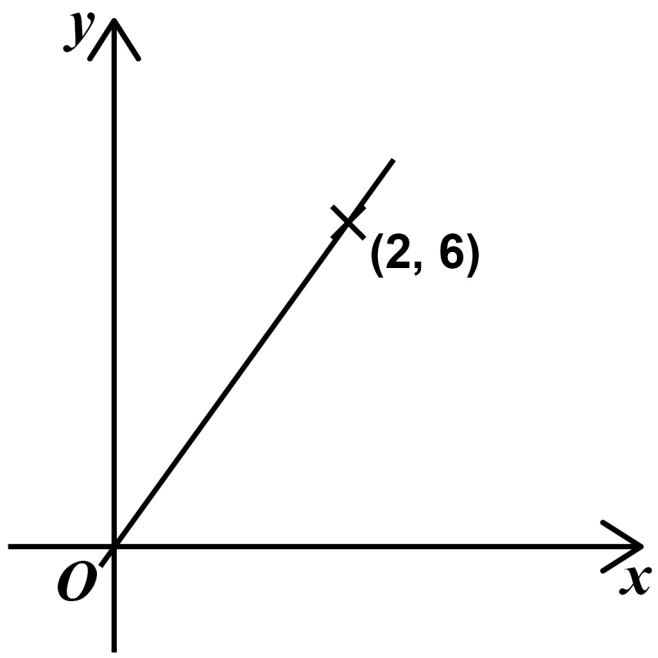
Answer _____

16 (c) What percentage of the 150 STUDENTS travel to school by car? [2 marks]

Answer _____ **%**

[Turn over]

17 **A straight line passes through O and (2, 6)**



Circle the equation of the line. [1 mark]

$y = x + 4$ $y = 6$ $y = 3x$ $y = \frac{1}{3}x$

6

18 (a) Work out 110% of 80 [2 marks]

Answer _____

18 (b) Work out 21 as a fraction of 12

Circle your answer. [1 mark]

$\frac{7}{4}$ $\frac{4}{7}$ $\frac{3}{4}$ $\frac{4}{3}$

[Turn over]

19 **Bags X and Y each contain counters.**

Bag X	Bag Y
30 counters	5 counters
Each counter is green, white or yellow	3 green and 2 red

19 (a) **P(green counter from X) = P(red counter from Y)**

Work out the number of green counters in X.
[2 marks]

Answer _____

19 (b) All 35 counters are put into one bag.

One counter is picked at random.

Work out the probability that the counter is NOT red. [2 marks]

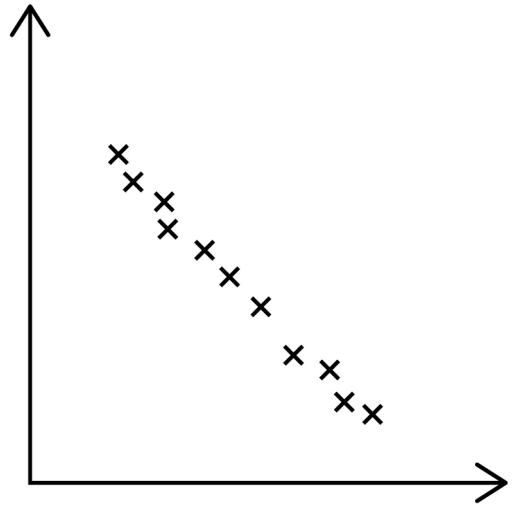
Answer _____

[Turn over]

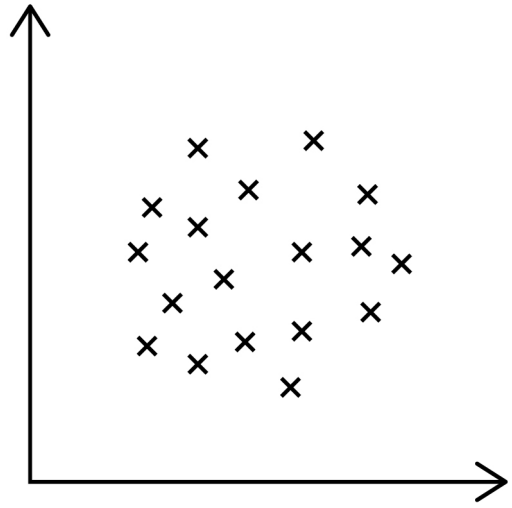
7

20 **A and B are scatter graphs.**

Graph A



Graph B



What type of correlation is shown by each graph?

Choose from

- **Weak positive**
- **Strong positive**
- **Weak negative**
- **Strong negative**
- **No correlation**

[2 marks]

Graph A _____

Graph B _____

[Turn over]

21 (a) All the terms of a GEOMETRIC progression are positive.

The second and fourth terms are shown.

……. 4 ……. 16

Work out the first and third terms. [2 marks]

First term _____

Third term _____

21 (b) **The first two terms of an ARITHMETIC progression are shown.**

p $\quad$ $5p$ $\quad$ .....

The sum of the first three terms is 90

Work out the value of p. [3 marks]

Answer _____

[Turn over]

7

22 **This formula converts temperature in degrees Fahrenheit (F) to kelvin (K)**

$$K = \frac{5}{9}(F - 32) + 273$$

A pottery oven is heated to 2192 degrees Fahrenheit.

Work out this temperature in kelvin. [3 marks]

Answer _____ **kelvin**

[Turn over]

23 As a decimal $\frac{11}{40} = 0.275$

Work out $\frac{33}{400}$ as a decimal. [2 marks]

Answer _____

24 **The cost of a holiday is £2400**

Rana pays a deposit followed by monthly payments, in the ratio

deposit : total of the monthly payments = 3 : 5

She makes 6 equal monthly payments.

Work out her monthly payment. [4 marks]

Answer £ _____

25 **Factorise fully** $2x^2 + 6x$ **[2 marks]**

Answer

11

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[Turn over]

26 **Two wire shapes make an earring.**

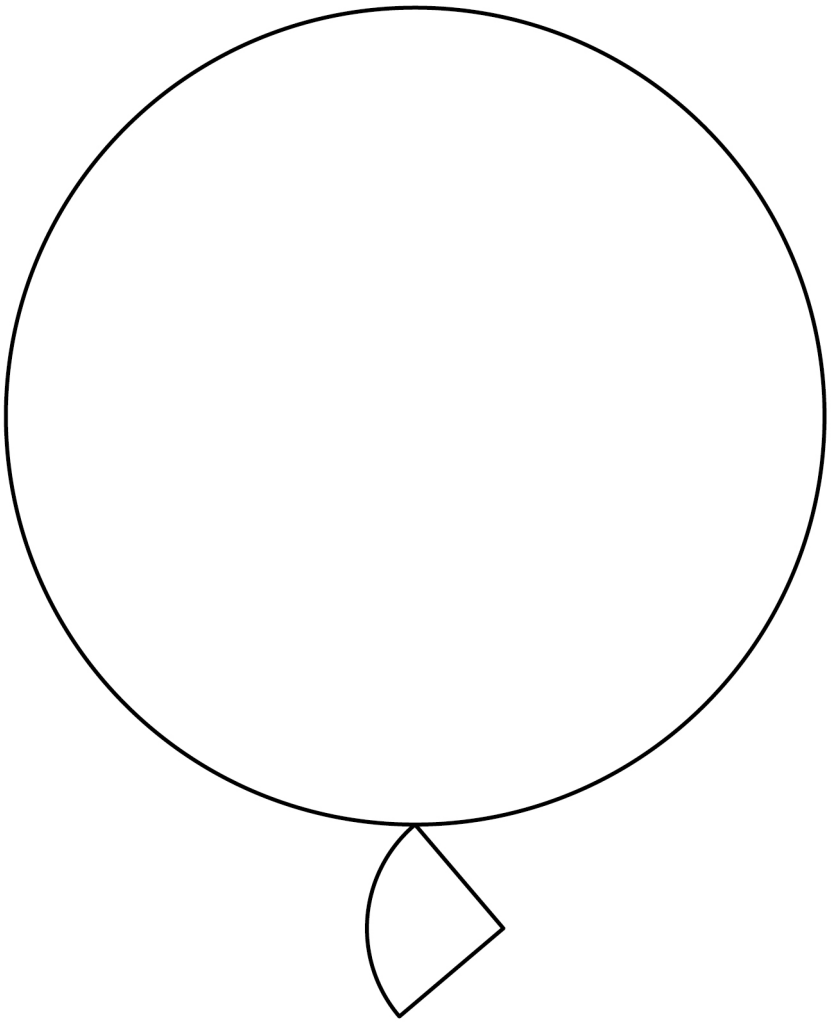
The shapes are

a circle with radius 21 mm

and

a quarter circle.

The diagram is not drawn accurately.



radius of circle : radius of quarter circle = 7 : 2

26 (a) Show that the radius of the quarter circle is 6 mm [1 mark]

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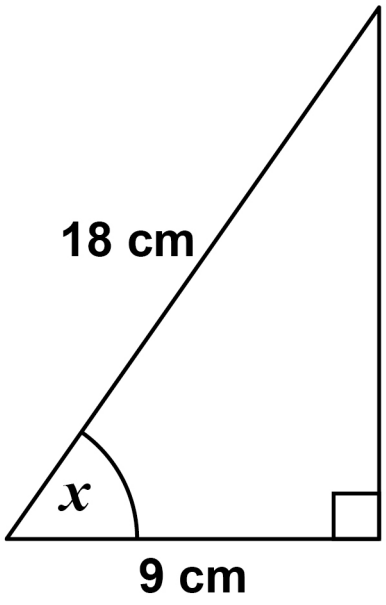
26 (b) Work out the TOTAL length of the wire in the earring.

Give your answer in the form $a\pi + b$ where a and b are integers. [4 marks]

Answer _____ **mm**

27 **Use trigonometry to work out the size of angle x.**
[2 marks]

The diagram is not drawn accuately.



Answer _____ **degrees**

28 Rearrange $c = \frac{d+2}{3}$ to make d the subject.

[2 marks]

Answer _____

[Turn over]

29 (a) Write 360 000 in standard form. [1 mark]

Answer _____

29 (b) Write 9.2×10^{-3} as an ordinary number. [1 mark]

Answer _____

END OF QUESTIONS

6

Additional page, if required.
Write the question numbers in the left-hand margin.

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For Examiner's Use	
Pages	Mark
4–5	
6–8	
10–13	
14–16	
18–20	
21–23	
24–26	
27–29	
30–33	
34–38	
40–43	
44–46	
TOTAL	

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