z

AQA

Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

GCSE

MATHEMATICS

F

Foundation Tier   Paper 2 Calculator

8300/2F

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:
- **a calculator**
- **mathematical instruments**
- **the Formulae Sheet (enclosed).**

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.**
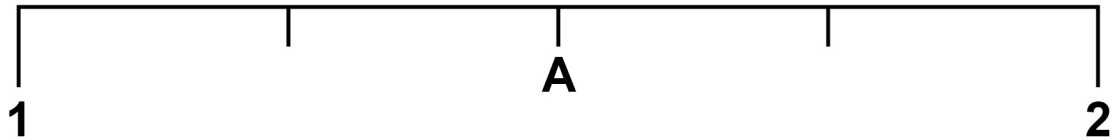
ADVICE

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 is a number line.**

Which number is at A?

Circle your answer. [1 mark]

1.2   1.4   1.5   1.8

2   **Here is an expression $5a + 7b + 9c$**

Which is the second term?

Circle your answer. [1 mark]

a **7** $7b$ **9**

3   **How many hours are there in 5 days?**

        Circle your answer. [1 mark]

        35   **120**   **150**   **300**

4   **Which of these parts of a circle is a curve?**

        Circle your answer. [1 mark]

        circumference   **diameter**

        centre   **radius**

5 (a) Write $1\frac{4}{9}$ as an improper fraction. **[1 mark]**

_____

_____

_____

Answer _____

5 (b) Convert $\frac{7}{16}$ to a decimal. **[1 mark]**

_____

_____

_____

Answer _____

5 (c) Round 2.84 to 1 decimal place. **[1 mark]**

Answer _____

7
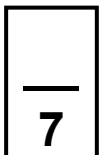
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[Turn over]

6 **A machine to clean carpets can be hired.**

MACHINE HIRE

£25 per day

CLEANING FLUID

1-litre bottle £10

2-litre bottle £18

Rana wants to

hire the machine for 1 day

and

buy 5 litres of cleaning fluid.

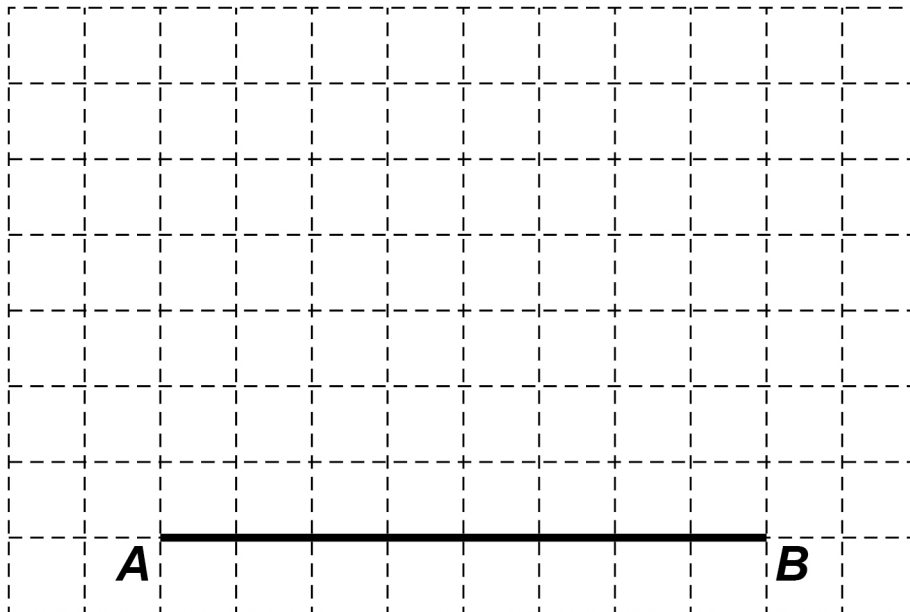**Work out the SMALLEST total amount she could pay. [3 marks]**

_____

_____

_____

_____

9

_____

_____

_____

_____

_____

Answer £ _____

[Turn over]

7   **Quadrilateral *ABCD* has**

- **angle *ABC* = 90°**

- ***BC* = 4 cm**

- ***CD* is parallel to *BA***

- ***CD* = 6 cm**

Draw *ABCD* on the centimetre grid.

AB has been drawn for you. [3 marks]

6

8 **The masses of some puppies were recorded.**

The smallest mass was 7 kilograms 200 grams.

The range of the masses was 650 grams.

What was the LARGEST mass?

Give your answer in kilograms and grams.
[2 marks]

_____

_____

_____

_____

Answer

_____ **kilograms** _____ **grams**

[Turn over]

9(a) Ali revises each day for five days.

On each of the first FOUR days he revises from 5 pm to 8 pm

On the fifth day he starts revising at 1 pm

He finishes when he has revised for a TOTAL of 18 hours for the five days.

What time does he finish on the fifth day?
[3 marks]

_____

_____

_____

_____

_____

_____

_____

Answer _____

9 (b) **Sofia is revising for Maths.**

She tries to work out   3 × (4 + 2)

Here is her working.

3 × (4 + 2) = 12 + 3
= 15

What mistake has she made? [1 mark]

_____

_____

_____

_____

_____

_____

_____

[Turn over]

6

10 **Lines *AB* and *BC* are shown.**
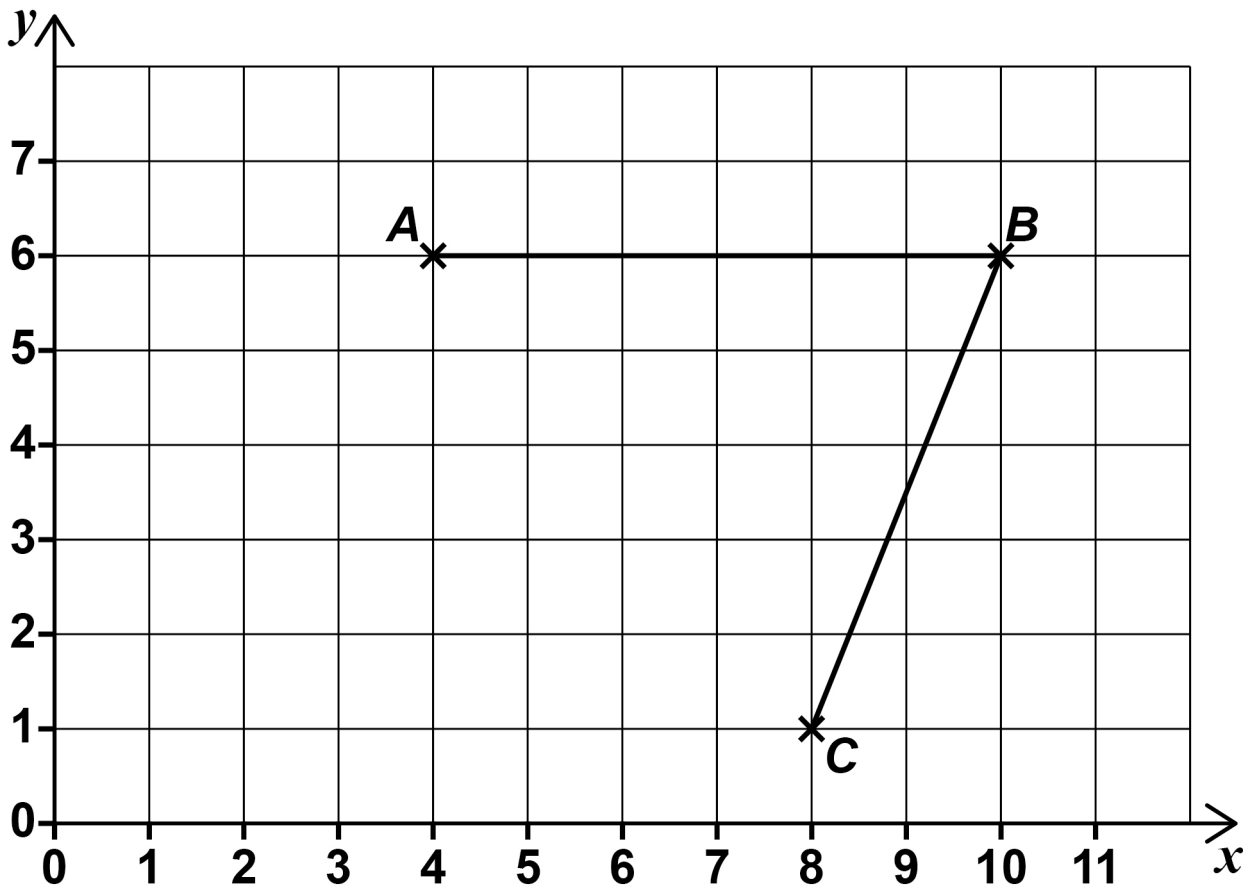
10(a) **Write down the coordinates of *C*. [1 mark]**

Answer (_____ , _____)

10(b) **Write down the coordinates of the midpoint of *AB*. [1 mark]**

Answer (_____ , _____)

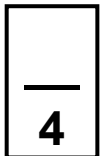**10 (c)** *D* is the point on the grid that makes *ABCD* a parallelogram.

Work out the coordinates of *D*. [1 mark]

Answer (_____ , _____)

10 (d) Write down the equation of the line passing through *A* and *B*. [1 mark]

Answer _____

[Turn over]

$\dfrac{}{4}$

11 **Nihal has savings of £168**

He uses $\frac{5}{7}$ of his savings to buy sports equipment.

11(a) Assume that he will use $\frac{1}{3}$ of the REST of the money to buy a shirt.

How much of his savings, in £, will he have left?
[3 marks]

_____

_____

_____

_____

_____

_____

_____

Answer £ _____

11(b) In fact, he uses MORE than $\frac{1}{3}$ of the rest of the money to buy a shirt.

What does this tell you about how much of his savings he has left?

Tick ONE box. [1 mark]

☐ It is more than the answer to part (a)

☐ It is the same as the answer to part (a)

☐ It is less than the answer to part (a)

☐ It is not possible to tell

[Turn over]

$\frac{}{4}$

12 **Sue is working with 2-digit numbers.**

She multiplies the digits together to get an answer.

> **For 63, she multiplies 6 by 3**
>
> **so 63 gives an answer of 18**

12(a) **Write down a different 2-digit number that gives an answer of 18 [1 mark]**

Answer _____

12(b) **Write down a 2-digit number that gives an answer of 0 [1 mark]**

Answer _____

12(c) **Write down a 2-digit number that gives an answer GREATER than 70 [1 mark]**

Answer _____

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[Turn over]

13 **Steve and Molly each buy 480 tea bags.**

SMALL PACKS

80 tea bags for £1.90

LARGE PACKS
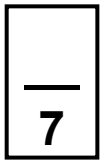
160 tea bags for £3.25

Steve buys only small packs.

Molly buys only large packs.

In total, how much MORE than Molly does Steve pay? [4 marks]

_____

_____

_____

_____

_____

_____

2 0

_____

_____

_____

_____

_____

_____

Answer £ _____

[Turn over]

7

14 **Match each expression on the left with one on the right.**

One has been done for you. [3 marks]

$a + 6$

$a + 3 + 2$ —————————— $a + 5$

$a + 3 \times 2$

$3a + 6$

$a \times 3 \times 2$

$6a$

$a \times 3 + 2$

$3a + 2$

BLANK PAGE

[Turn over]

15 **The scale drawing shows a tree and a student.**

7 cm

2.5 cm
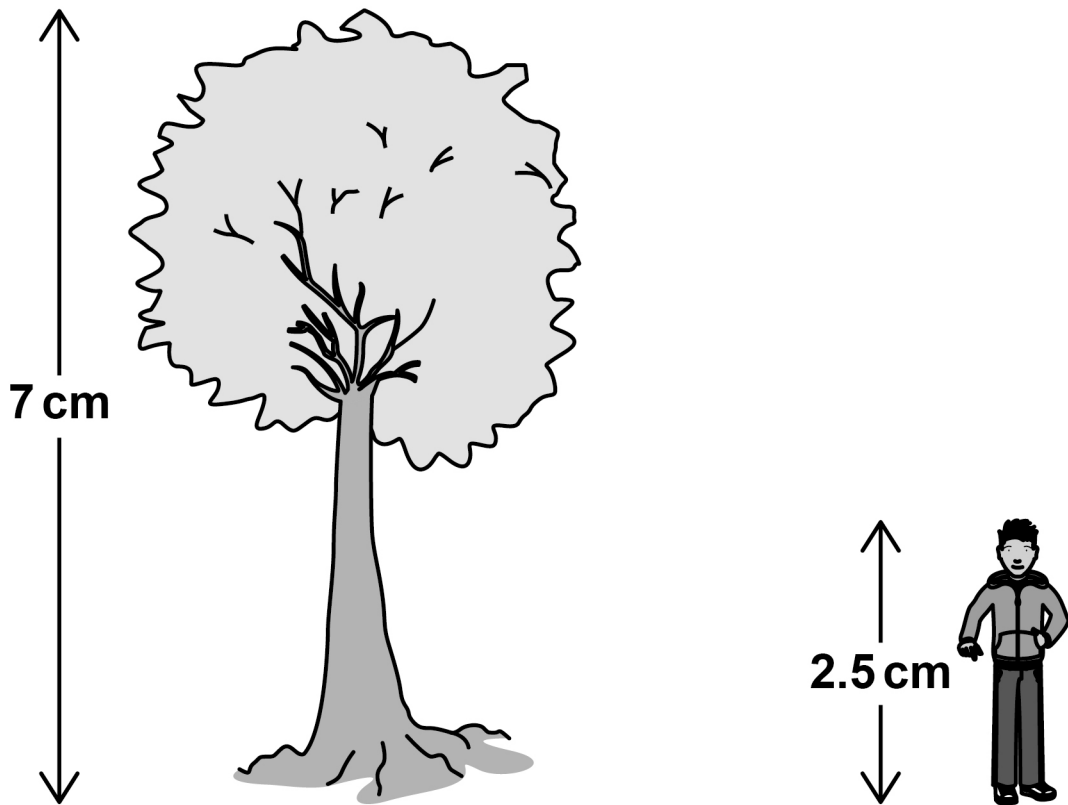
The actual height of the tree is 4.2 metres.

Work out the actual height of the student.
[3 marks]

_____

_____

_____

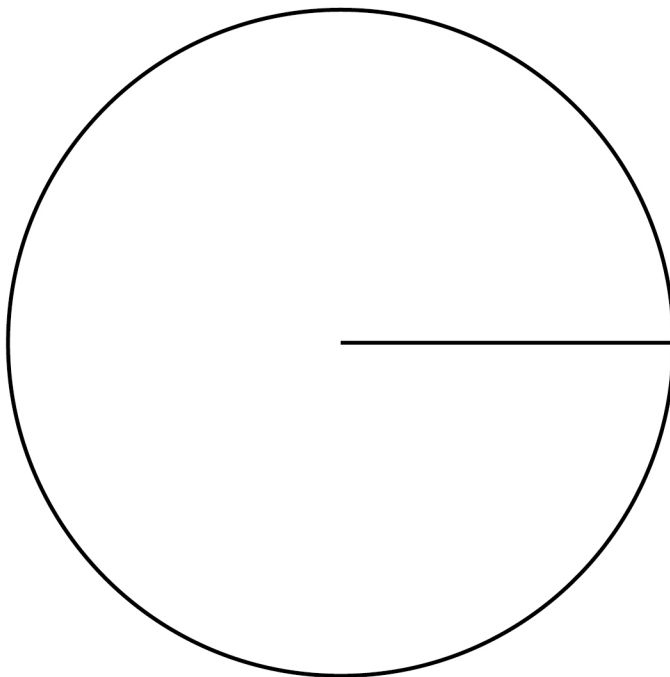_____

_____

Answer _____ m

[Turn over]

6

16   **60 people were asked if they would vote in an election.**

- $\frac{1}{4}$ **of the people said No**

- **20 people said Yes**

- **The rest said Maybe**

Draw and label a pie chart to show this information. [3 marks]

[Turn over]

17 (a) x is at least 7

Circle the correct inequality. [1 mark]

$x < 7$ $x \leqslant 7$ $x > 7$ $x \geqslant 7$

17 (b) **Multiply out** $5c(2d + 1)$ **[2 marks]**

_____

_____

_____

Answer _____

17 (c) **Factorise** $21x + 28$ **[1 mark]**

_____

_____

_____

Answer _____

7
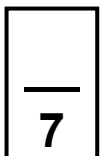
18(a) **The people at a party are either adults or children.**

adults : children = 9 : 11

What percentage are adults? [2 marks]

_____

_____

_____

_____

_____

_____

Answer _____ **%**

[Turn over]

18(b) **The people at a different party are from Spain, France or Germany.**

68% are from Spain

number from France = number from Germany

Work out

number from Spain : number from France

Give your answer in the form $n : 1$ **[3 marks]**

_____

_____

_____

_____

_____

_____

Answer _____ : 1

19(a) Circle the point that is on the line $4x + y = 7$
[1 mark]

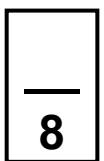(2, 1)   (2, −1)   (1, 2)   (−1, 2)

19(b) Write down the coordinates of the y-intercept of the line $y = 3x + 8$ [1 mark]

Answer (_____ , _____)

19(c) Work out the gradient of the line $2y = 10x$
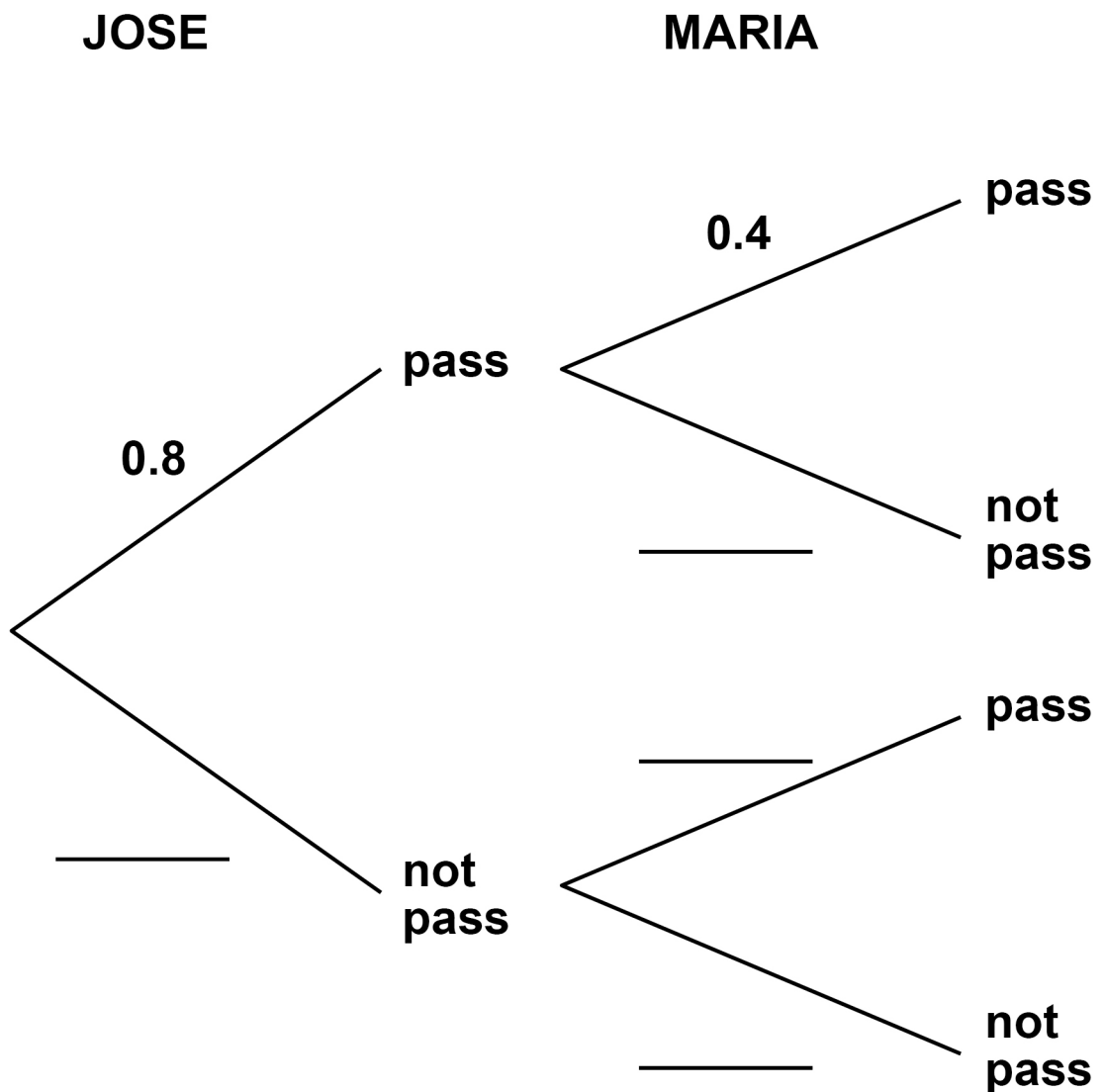[1 mark]

Answer _____

[Turn over]

8

20 Jose and Maria each take a test.

The probability that Jose passes is 0.8

The probability that Maria passes is 0.4

20(a) Complete the tree diagram. **[2 marks]**

JOSE   MARIA

```
                                              0.4        pass
                                   pass  <
                         0.8  /                _____    not
                            /                           pass
                          /
                         <
                          \
                    _____  \                   _____    pass
                            \    not   <
                             \   pass
                                              _____     not
                                                        pass
```

20(b) **Work out the probability that they BOTH pass.**
[1 mark]

_____

_____

Answer _____

[Turn over]

21   **Show that 2125 can be written as**

a cube number MULTIPLIED by a prime number between 10 and 20 [2 marks]

_____

_____

_____

_____

_____

_____

_____

$$\boxed{\dfrac{}{5}}$$

22 **A school play takes place each day from Monday to Friday.**

Here are the attendances on four of the days.

Monday	Tuesday	Wednesday	Thursday
72	83	88	97

For all FIVE days, the mean attendance is 90

Work out the attendance on Friday. [3 marks]

Answer _____

[Turn over]

23   **Sam types a constant number of words per minute.**

He takes 8 minutes to type a report of 416 words.

How long does it take him to type an essay of 1534 words?

Give your answer in minutes and seconds.
[3 marks]

_____

_____

_____

_____

_____

_____

_____

Answer _____ minutes _____ seconds

24 $4y = 5x$

Which statement is correct?

Tick ONE box. [1 mark]

☐ y **is 80% of** x

☐ y **is 125% of** x

☐ x **is 20% of** y

☐ x **is 400% of** y

[Turn over]

<div style="float:right;">7</div>

25   Rosie makes phone calls to try to sell broadband.

        Today, she made 120 calls.

        The table shows the results.

RESULT OF CALL	FREQUENCY
Not answered	33
Answered but sale not made	81
Answered and sale made	6

25(a)   Write down the relative frequency that a call was NOT ANSWERED. [1 mark]

        Answer _____

25(b) **During the REST OF THE WEEK, Rosie will make 500 calls.**

Using the results in the table, how many sales does she expect to make during the REST OF THE WEEK? [2 marks]

Answer

[Turn over]

26 **Harry and Ellie each bought a printer and a hard drive.**

Here is some information about how much they paid.

	Printer	Hard drive
Harry	£80	£25
Ellie	10% less than Harry	20% more than Harry

Ellie says,

''In total, I paid more than Harry because 20% is greater than 10%''

Is she correct?

Tick a box.

Yes ☐   **No** ☐

Show calculations to support your answer.
[2 marks]

_____

_____

_____

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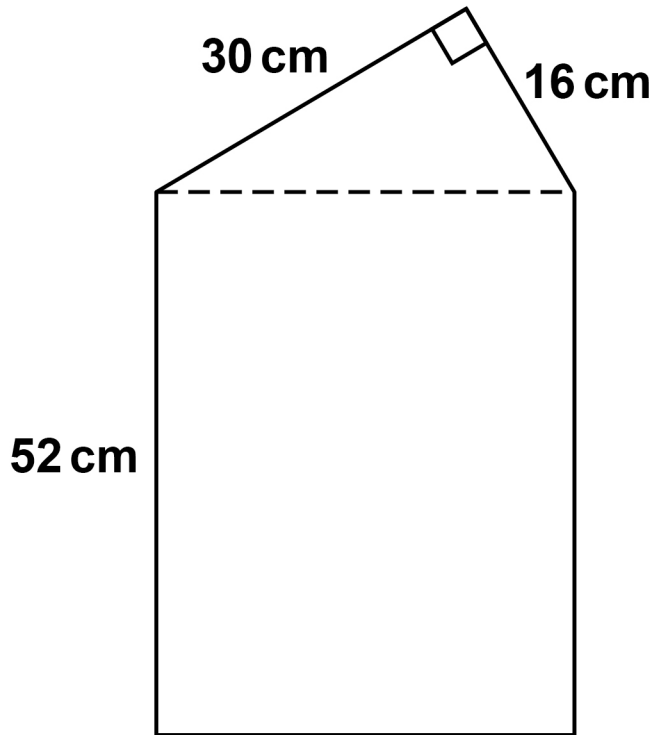
[Turn over]

$$\boxed{\dfrac{}{5}}$$

27 **A shape is made by joining a right-angled triangle to a rectangle.**

The diagram is not drawn accurately.

Work out the area of the shape. [5 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ **cm^2**

[Turn over]

28 **Solve** $5(2x - 1) = 6x + 9$ **[3 marks]**

_____

_____

_____

_____

_____

_____

_____

_____

$x =$ _____

END OF QUESTIONS

$\boxed{\dfrac{}{8}}$

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

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Write the question numbers in the left-hand margin.

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Write the question numbers in the left-hand margin.

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For Examiner's Use	
Pages	Mark
4–6	
8–10	
11–13	
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16–17	
18–21	
22–25	
26–28	
29–31	
32–34	
35–37	
38–41	
42–44	
TOTAL	

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