Maths Made Easy

Candidate surname

Other names

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

Centre Number

Candidate Number

Tuesday 5 November 2019

Morning (Time: 1 hour 30 minutes) | Paper Reference **1MA1/1F**

Mathematics

Paper 1 (Non-Calculator)
Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks

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.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**

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.
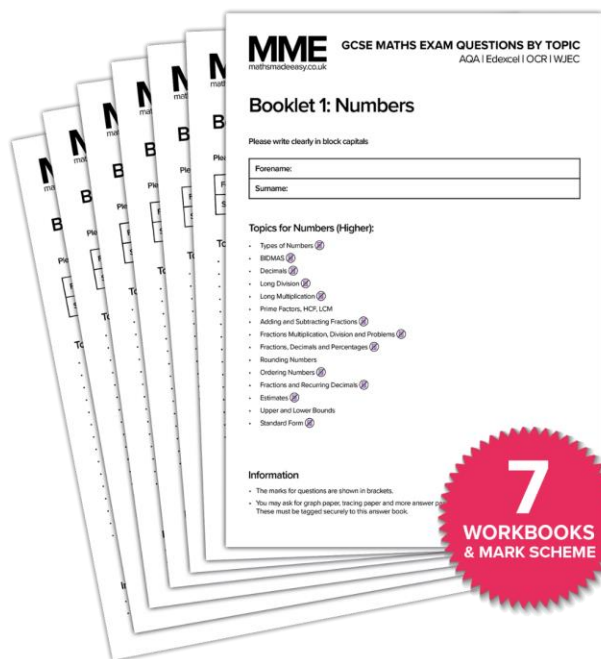- Check your answers if you have time at the end.

Turn over ▷

Pearson

MME.

GCSE Maths Products

GCSE MATHS EXAM QUESTIONS BY TOPIC
AQA | Edexcel | OCR | WJEC

Booklet 1: Numbers

Please write clearly in block capitals

Forename:
Surname:

Topics for Numbers (Higher):

- Types of Numbers
- BIDMAS
- Decimals
- Long Division
- Long Multiplication
- Prime Factors, HCF, LCM
- Adding and Subtracting Fractions
- Fractions Multiplication, Division and Problems
- Fractions, Decimals and Percentages
- Rounding Numbers
- Ordering Numbers
- Fractions and Recurring Decimals
- Estimates
- Upper and Lower Bounds
- Standard Form

Information

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

7 WORKBOOKS & MARK SCHEME

MME
Complete GCSE Maths Revision Guide & Practice
2020/2021
mathsmadeeasy.co.uk

1 REVISION GUIDE

MME
GCSE Maths Revision Cards
AQA, Edexcel & OCR

80 REVISION CARDS

MME
mathsmadeeasy.co.uk
GCSE Maths Equations to Remember

1 FORMULAE Z-CARD

MME mathsmadeeasy.co.uk
GCSE MATHEMATICS
AQA | Edexcel | OCR | WJEC

Higher Tier - Set A - Paper 1 – Non-Calculator

Please write clearly in block capitals

Forename:
Surname:

Time Allowed: 1 hour 30 minutes

Materials
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.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- 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.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

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

12 EXAM PAPERS & MARK SCHEME

Available in the course in a box or for purchase separately.

1   Write down the value of the 7 in the number 1074

70

(Total for Question 1 is 1 mark)

2   Write 4.58 correct to 1 decimal place.

4·6

(Total for Question 2 is 1 mark)

3   Work out 31.7×100

31.7000

3170

(Total for Question 3 is 1 mark)

4   Write the fraction $\dfrac{28}{70}$ in its simplest form.

$$\dfrac{28 \div 7}{70 \div 7} = \dfrac{4}{10} = \dfrac{2}{5}$$

$\dfrac{2}{5}$

(Total for Question 4 is 1 mark)

5   Write 15% as a decimal.

0·15

(Total for Question 5 is 1 mark)

6 The pictogram shows information about the number of pictures sold in an art shop in each of January, February and March.

January	□□□	
February	□□□□ (partial)	**Key:**
March	□□□ (partial)	□ represents 8 pictures
April	□ (partial)	

(a) Write down the number of pictures sold in January.

24

(1)

12 pictures were sold in April.

(b) Show this information on the pictogram.

(1)

(c) What was the total number of pictures sold in these four months?

$(3 \times 8) + (3 \cdot 5 \times 8) + (2 \cdot 5 \times 8) + $ ~~crossed out~~ 12

$= 24 + 28 + 20 + 12$

$= 84$

84

(2)

(Total for Question 6 is 4 marks)

7 Work out the difference, in minutes, between 1 hour 25 minutes and $1\frac{1}{4}$ hours.

$1\frac{1}{4}$ hours $= 1.25$ hours

$= 1$ hour 15 minutes

1 hour 25 minutes $-$ 1 hour 15 minutes

$=$ 10 minutes

10 minutes

(Total for Question 7 is 2 marks)

8 Prasha has five blocks of wood.

The total weight of all five blocks of wood is 3 kilograms.
4 of the blocks of wood each have a weight of 650 grams.

Work out the weight, in grams, of the other block of wood.
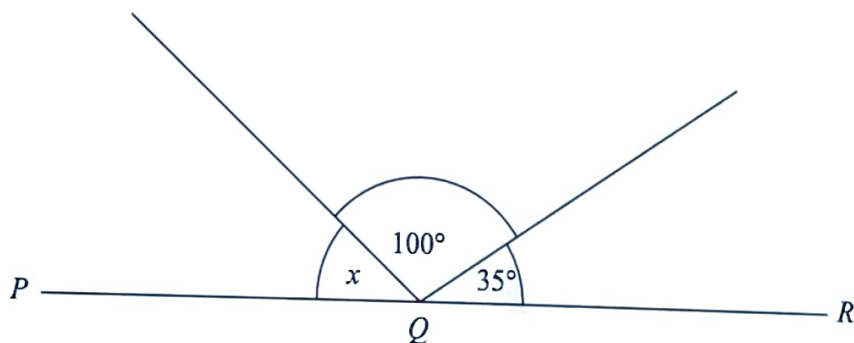
$650 \times 4 = 2600$ grams

3 kilograms $= 3000$ grams

$3000 - 2600 = 400$ grams

.... 400 .... grams

(Total for Question 8 is 3 marks)

9 *PQR* is a straight line.

Work out the size of angle *x*.

$x = 180° - 100° - 35°$

$= 45°$

.... 45 .... °

(Total for Question 9 is 2 marks)

4
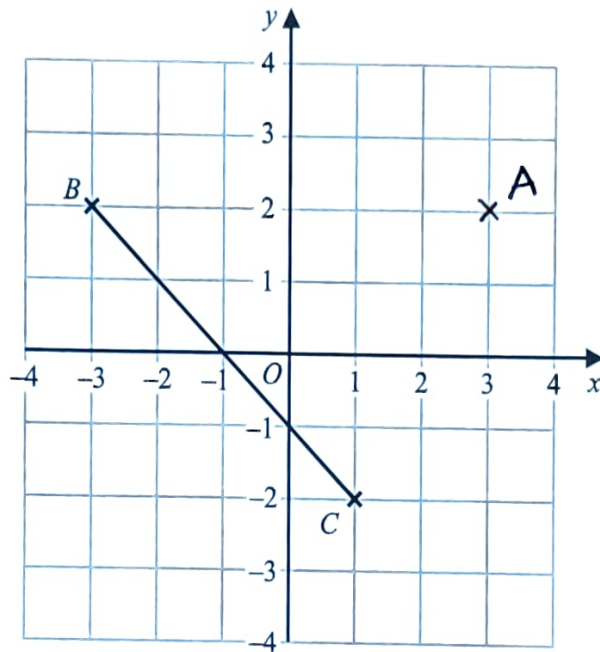
(a) Plot the point with coordinates (3, 2)
Label this point A.

(1)

(b) Write down the coordinates of the midpoint of BC.

(−1 , 0)

(1)

(Total for Question 10 is 2 marks)

11 Mason throws a coin 3 times.
The outcome of each throw is either Heads or Tails.

List all the possible outcomes of the 3 throws.

HHH   HHT   HTH   HTT

THH   THT   TTH   TTT

(Total for Question 11 is 2 marks)

12 Rehan is on holiday in the USA.

He has $200 to spend on clothes.

Rehan buys

      1 pair of trainers costing $60
      3 T-shirts costing $25 each.

He also wants to buy a jacket costing $80

(a) Has Rehan got enough money to buy the jacket?
    You must show how you get your answer.

$$3 \times 25 = \$75$$

$$60 + 75 = \$135$$

$$200 - 135 = \$65$$

NO, Rehan has got $65 but needs $80

(3)

The trainers cost $60
The exchange rate is $1 = £0.749

Rehan says,

      "The trainers cost less than £40"

Rehan is wrong.

(b) Using a suitable approximation, show working to explain why.

$$\$60 \approx 60 \times 0.75 = £45$$

(2)

(Total for Question 12 is 5 marks)

13 (a) Simplify $2a \times 5b$

$10ab$

(1)

(b) Simplify $3x + 2y + 5x - y$

$8x + y$

(2)

(Total for Question 13 is 3 marks)

14 Work out 23×15

$\times$	20	3
10	200	30
5	100	15

```
 200
 100
  30    +
  15
 ___
 345
```
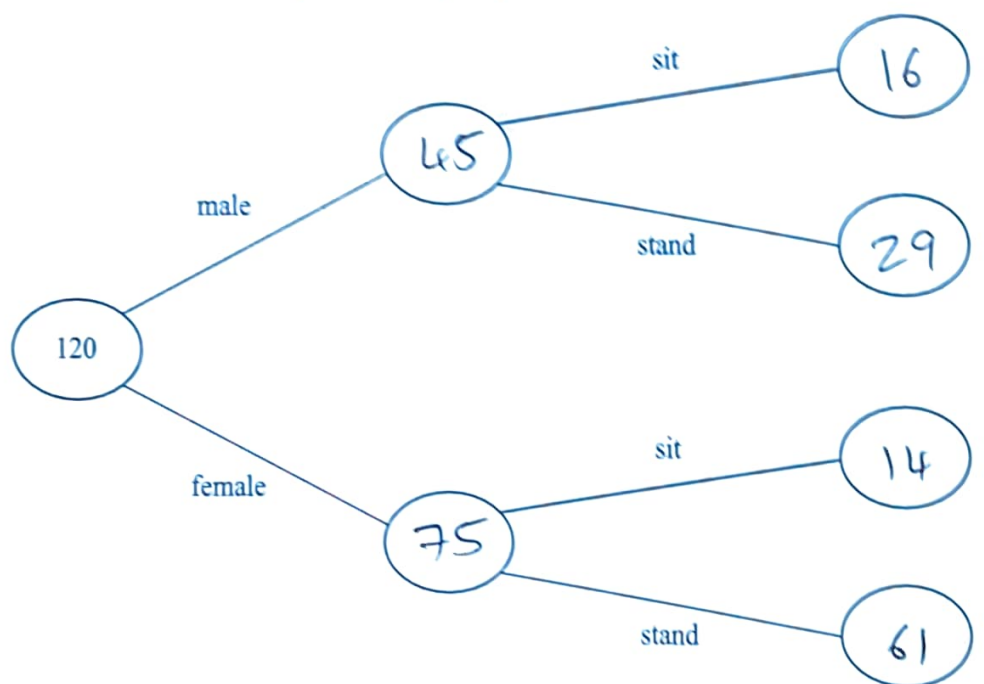
345

(Total for Question 14 is 2 marks)

15 120 people were at a hockey match.

Each person was asked if they wanted to stand or to sit to watch the match.

75 of the people were female
29 of the males wanted to stand
30 of the people wanted to sit

(a) Use this information to complete the frequency tree.

(3)

One of the 120 people is chosen at random.

(b) Write down the probability that this person is a male who wanted to stand.
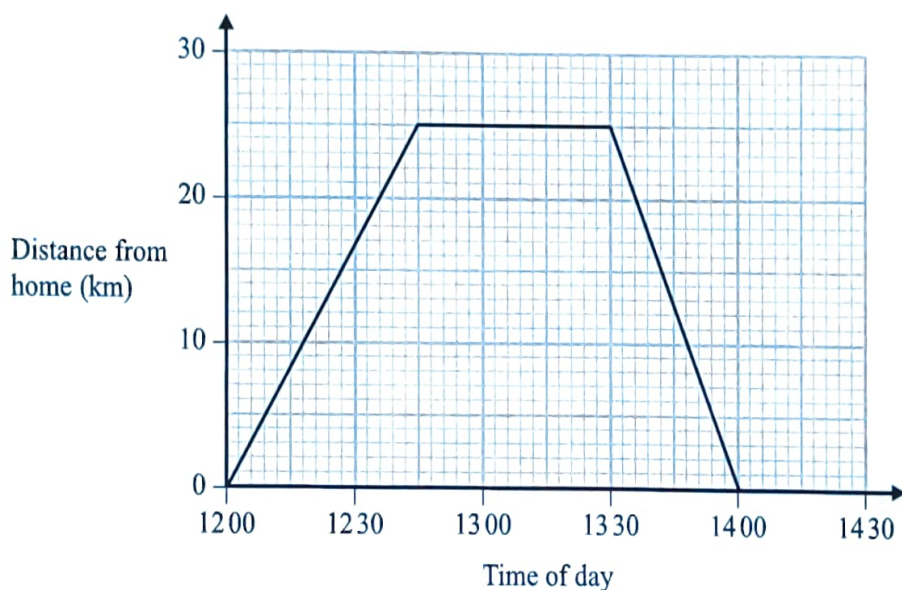
$$\frac{29}{120}$$

(1)

(Total for Question 15 is 4 marks)

16 Steve drove from his home to his friend's house.
He stayed at his friend's house and then drove home.

Here is Steve's travel graph.

Time of day

(a) For how many minutes did Steve stay at his friend's house?

............................**45**............................ minutes

(1)

(b) What was Steve's average speed on his journey home?

Speed = distance ÷ time
$$= 25 \div 0.5$$
$$= 50$$

............................**50**............................ km/h

(2)

(Total for Question 16 is 3 marks)

17 $x - 1 = 2$

Work out the value of $2x^2$

$$x - 1 = 2$$
$$x = 3$$

$$2x^2 = 2(3)^2 = 2 \times 9 = 18$$
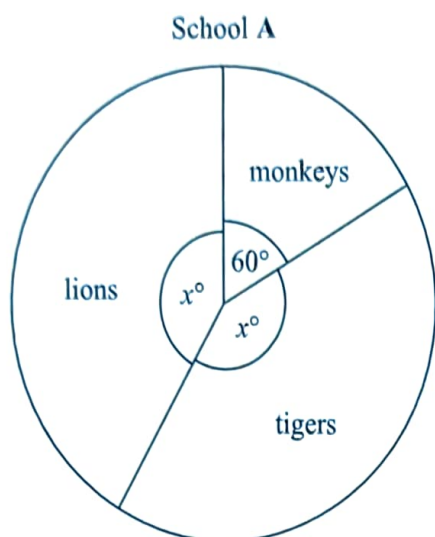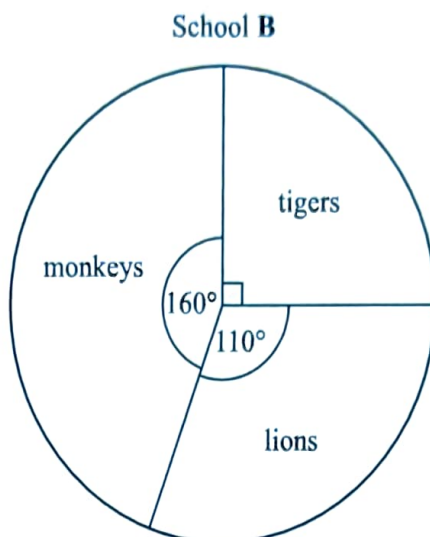
18

(Total for Question 17 is 3 marks)

18 The pie charts show information about the favourite animal of each student at school **A** and of each student at school **B**.

School A

School B

There are 480 students at school **A**.   There are 760 students at school **B**.

Henry says,

"The same number of students at each school have tigers as their favourite animal."

Is Henry correct?
You must show how you get your answer.

$$x = (360 - 60) \div 2 = 300 \div 2 = 150°$$

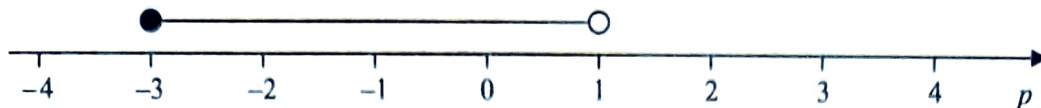$$\text{School A tigers} = \frac{150}{360} \times 480 = 200$$

$$\text{School B tigers} = \frac{90}{360} \times 760 = 190$$

So No, Henry is not correct.

(Total for Question 18 is 4 marks)

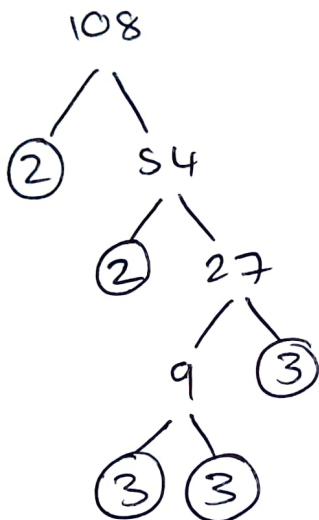**19** Here is a number line.

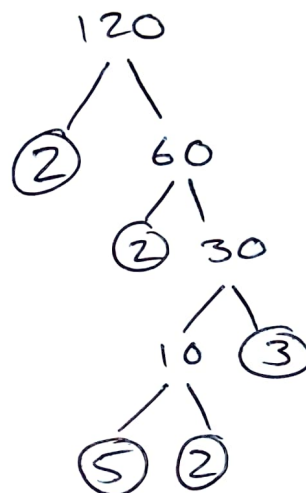Write down the inequality shown on the number line.

$$-3 \leq p < 1$$

(Total for Question 19 is 2 marks)

20 Find the Lowest Common Multiple (LCM) of 108 and 120

$$108 = 2^2 \times 3^3$$

$$120 = 2^3 \times 3 \times 5$$

$$LCM = 2^3 \times 3^3 \times 5$$
$$= 8 \times 27 \times 5$$
$$= 1080$$

1080

(Total for Question 20 is 3 marks)

21 There are 60 people in a choir.
Half of the people in the choir are women.

The number of women in the choir is 3 times the number of men in the choir.
The rest of the people in the choir are children.

the number of children in the choir : the number of men in the choir = $n : 1$

Work out the value of n.
You must show how you get your answer.

$60 \div 2 = 30$ women

$30 \div 3 = 10$ men

$60 - 30 - 10 = 20$ children

children : men
20 : 10
2 : 1

$n = 2$

$n = $ .... 2 ....

(Total for Question 21 is 4 marks)

22 Work out $1\frac{3}{4} \times 1\frac{1}{3}$

Give your answer as a mixed number.

$1\frac{3}{4} \times 1\frac{1}{3} = \frac{7}{4} \times \frac{4}{3} = \frac{28}{12}$
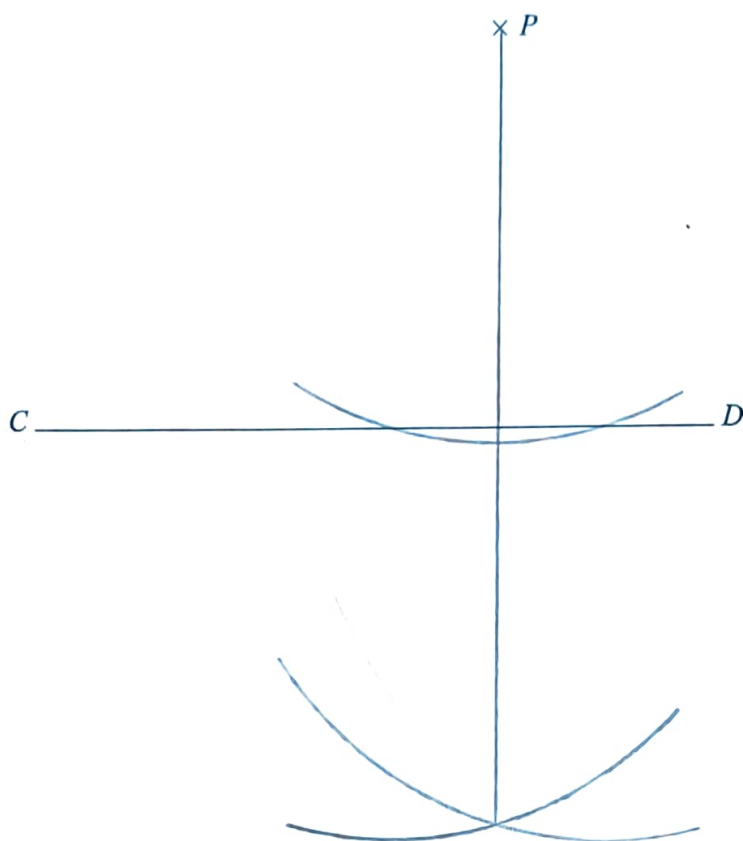
$\frac{28}{12} = 2\frac{4}{12} = 2\frac{1}{3}$

.... $2\frac{1}{3}$ ....
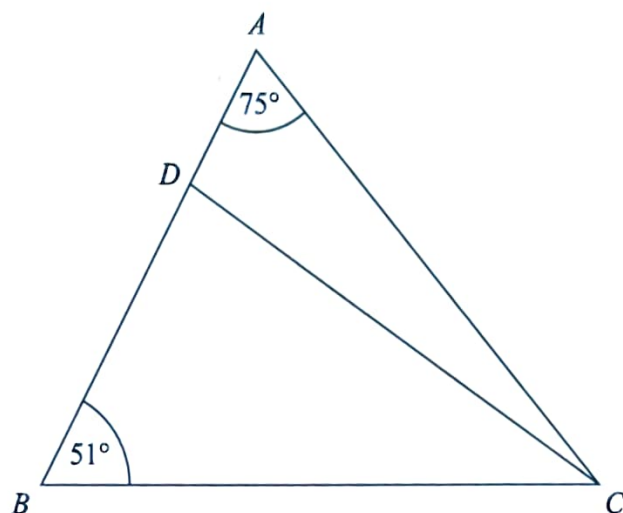
(Total for Question 22 is 3 marks)

23 Use a ruler and compasses to construct the line from the point P perpendicular to the line CD.
You must show **all** construction lines.

$\times\ P$

C _____ D

(Total for Question 23 is 2 marks)

24 The diagram shows triangle *ABC*.

ADB is a straight line.

the size of angle *DCB* : the size of angle *ACD* = 2 : 1

Work out the size of angle *BDC*.

$\angle ACB = 180 - 75 - 51 = 54°$

$54 \div 3 = 18°$ per part of ratio

$\angle DCB : \angle ACD$

$36° : 18°$

$\angle BDC = 180 - 51 - 36 = 93°$

93 °

(Total for Question 24 is 4 marks)

25 4 red bricks have a mean weight of 5 kg.
5 blue bricks have a mean weight of 9 kg.
1 green brick has a weight of 6 kg.

Donna says,

"The mean weight of the 10 bricks is less than 7 kg."

Is Donna correct?
You must show how you get your answer.

Red total weight = $4 \times 5 = 20$ kg

Blue total weight = $5 \times 9 = 45$ kg

Total mean = $\dfrac{20 + 45 + 6}{10}$ = $\dfrac{71}{10}$

= 7.1 kg

So no, Donna is not correct.

(Total for Question 25 is 3 marks)

26 (a) Simplify $(p^2)^5$

$$p^{10}$$

(1)

(b) Simplify $12x^7y^3 \div 6x^3y$

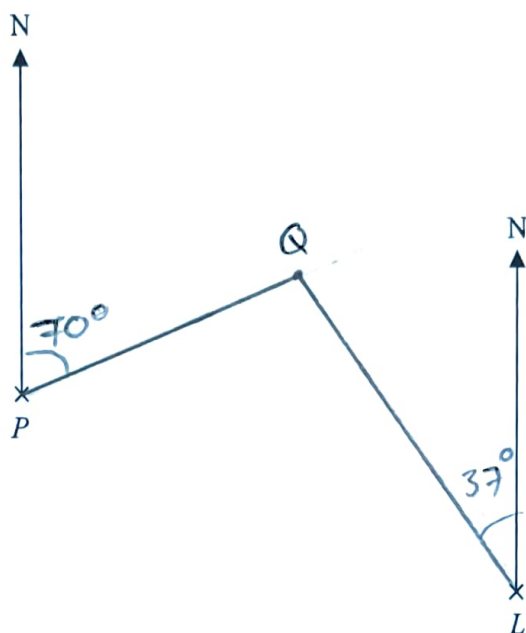$12 \div 6 = 2$

$x^7 \div x^3 = x^{7-3} = x^4$

$y^3 \div y = y^{3-1} = y^2$

$$2x^4y^2$$

(2)

(Total for Question 26 is 3 marks)

27 The accurate scale drawing shows the positions of port P and a lighthouse L.

N

Q

N

70°

P

37°

L

Scale: 1 cm represents 4 km.

Aleena sails her boat from port P on a bearing of 070°

She sails for $1\frac{1}{2}$ hours at an average speed of 12 km/h to a port Q.

Find

   (i) the distance, in km, of port Q from lighthouse L,

   (ii) the bearing of port Q from lighthouse L.

distance = speed × time = 12 × 1·5 = 18 km

18 km = 18 ÷ 4 = 4·5 cm

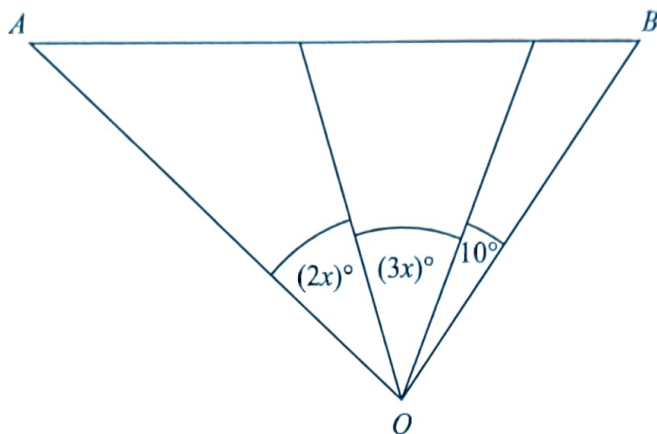distance from Q to L is 5·5 cm

5·5 × 4 = 22 km

360 − 37 = 323°

distance QL = 22 ~~~~~~~ km

bearing of Q from L = 323 °

(Total for Question 27 is 5 marks)

28 The diagram shows triangle *AOB*.

Angle *AOB* is **not** an obtuse angle.

Find the greatest value of *x*.
You must show all your working.
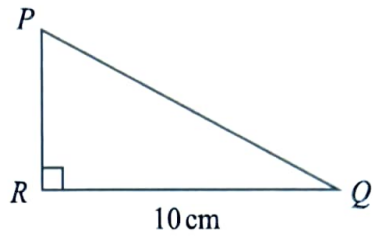
$$2x + 3x + 10° \leq 90°$$
$$5x \leq 80°$$
$$x \leq 16°$$
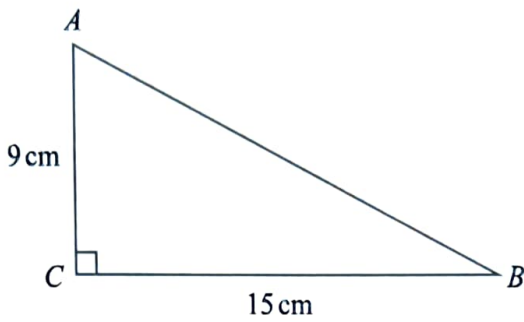
$x \leq 16°$

(Total for Question 28 is 3 marks)
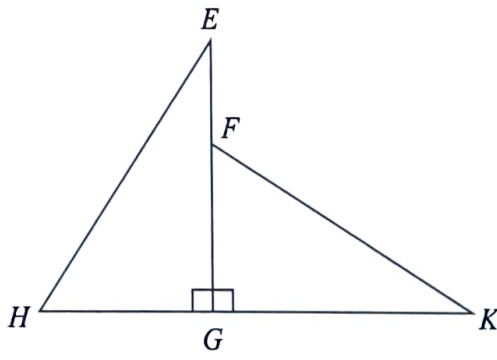
29 *ABC* and *PQR* are similar right-angled triangles.

angle *ABC* = angle *PQR*

(a) Work out the length of *PR*.

$$15 \div 10 = 1.5$$
$$9 \div 1.5 = 6 \text{ cm}$$

_____ 6 _____ cm

(2)

Triangle *EGH* is congruent to triangle *KGF*.

HK = 10 cm.
HG = 4 cm.

(b) Work out the length of *EF*.

$$KG = 10 - 4 = 6 \text{ cm}$$

$$EF = 6 - 4 = 2 \text{ cm}$$

_____ 2 _____ cm

(2)

(Total for Question 29 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS

MME.

GCSE Online Course

Numbers

Course Completion: **0%**

Algebra

Course Completion: **0%**

Graphs

Course Completion: **0%**

Ratio and Proportion

Course Completion: **0%**

Geometry

Course Completion: **1.47%**

Trigonometry

Course Completion: **0%**

Probability

Course Completion: **0%**

Statistics

Course Completion: **0%**

Track your progress through the course and your performance on practice questions

AVERAGE SCORE

Practice Questions

77% → -4%

Calculate the following:

$$\frac{(15-3)}{2} \div 3$$

0% Completed

2. Algebra
0% Completed +

3. Graphs
0% Completed −

3.1 Gradients of Straight Line Graphs +

3.2 y=mx+c +

3.3 Coordinates and Midpoints +

3.4 Drawing Straight Line Graphs +

3.5 Parallel Lines −

Item	Status	Latest Result
▶ Revision	Incomplete	-
❓ Practice Tests	0/3 Complete	-
📄 Online Exam	Incomplete	-

3.6 Quadratic and Cubic Graphs +

3.7 Turning Points of Quadratic Graphs +

3.8 Circle Graphs and Tangents +

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