

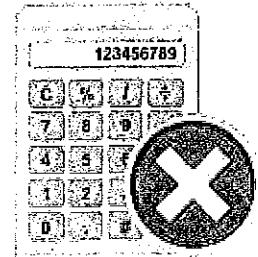
Year 11 – Set 2
Revision Homework
Easter Holidays

Name: _____

Teacher: _____

Instructions

- 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.**
- 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.
- Try to answer every question.
- Check your answers.

It is important that you put maximum effort into all homework tasks!

If you are having problems with any of the questions use the Corbett Maths website to support you. We have put the relevant clip number next to each question to help you.

The following sites may also be useful:

- PiXL Maths App
- MrBartonMaths – use the student section
- Mathsgenie
- MyMaths (croftonhs, pentagon)
- GCSE Bitesize

Your Class teacher will go through the questions in the first week after Easter.

Answer **all** questions in the spaces provided

- 1 Work out $\sqrt{2^6 + 6^2}$ Video 172
Circle your answer. [1 mark]

10 14 50 100

- 2 What is 800 million in standard form? Video 300
Circle your answer. [1 mark]

800×10^6 8×10^8 8×10^9 0.8×10^{10}

- 3 Circle the expression that is equivalent to $(4a^5)^2$ Video 174
[1 mark]

$16a^{10}$ $16a^7$ $8a^{10}$ $8a^7$



4 $y = \frac{10}{x}$

If the value of x doubles, what happens to the value of y ?

Circle your answer.

[1 mark]

÷ 2

× 2

÷ 5

× 5

5 (a) Factorise $x^2 - 100$

Video 120

[1 mark]

Answer _____

5 (b) Solve $7x + 6 > 1 + 2x$

Video 178

[2 marks]

Answer _____

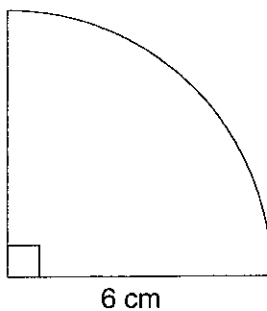


- 6 Work out the value of $(\sqrt{3})^2 \times (\sqrt{2})^2$ *Video 305* [2 marks]

Answer _____

- 7 Here is a quarter circle of radius 6 cm

Video 47



Not drawn
accurately

Work out the area of the quarter circle.

Give your answer in terms of π .

[2 marks]

Answer _____ cm^2



- 8 Three **whole** numbers are each rounded to the nearest 10
The sum of the rounded numbers is 70

Video 280

Work out the **maximum** possible sum for the original three numbers.

[2 marks]

Answer _____

- 9 Circle the expression for the range of n consecutive integers.

Video 57

[1 mark]

$$\frac{n+1}{2}$$

$$n-1$$

$$n$$

$$n+1$$

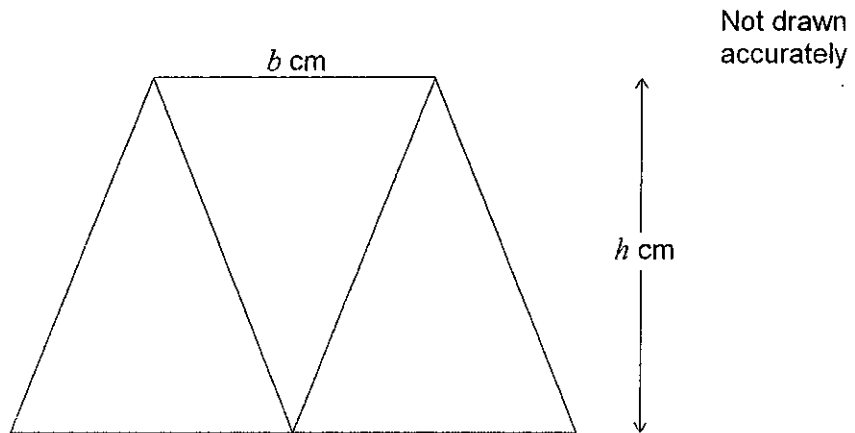
Turn over for the next question

7

Turn over ►



- 10 Three identical isosceles triangles are joined to make this trapezium.
Each triangle has base b cm and perpendicular height h cm



- 10 (a) Work out an expression, in terms of b and h , for the area of the trapezium.
Give your answer in its simplest form.

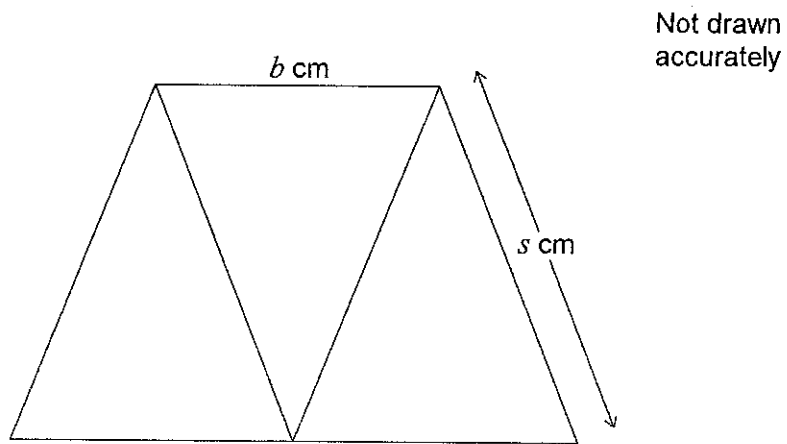
Video 49

[2 marks]

Answer _____ cm^2



10 (b) This diagram shows the same trapezium.



$$b : s = 2 : 3$$

Work out an expression, in terms of b , for the perimeter of the trapezium.

[2 marks]

Answer _____ cm

Turn over for the next question

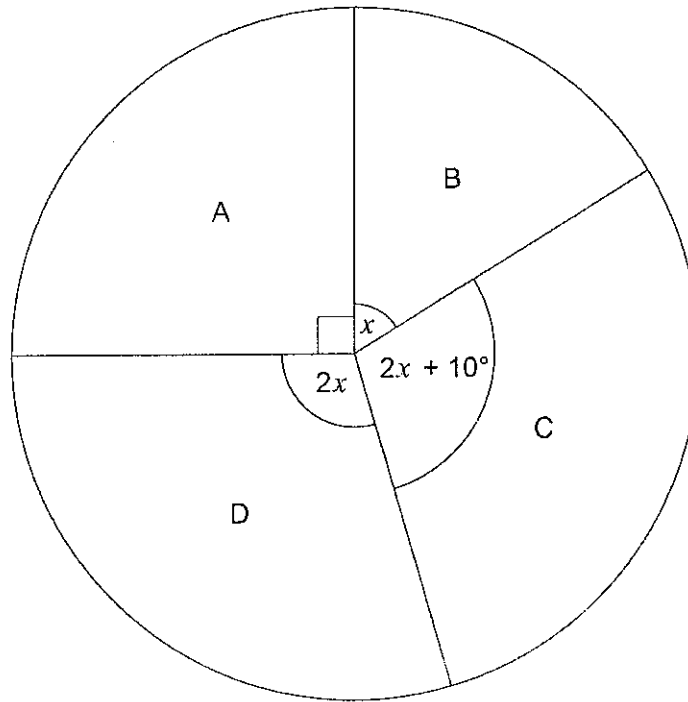


11

The four candidates in an election were A, B, C and D.
The pie chart shows the proportion of votes for each candidate.

Video 1/4

Proportion of votes

Not drawn
accurately

Work out the probability that a person who voted, chosen at random, voted for C.

[4 marks]

Answer _____



12

Use approximations to 1 significant figure to estimate the value of

$$\frac{0.526 \times 39.6^2}{\sqrt{97.65}}$$

Video 279a

You **must** show your working.**[3 marks]**

Answer _____

Turn over for the next question

7

Turn over ►



13

$$x : y = 7 : 4$$

$$x + y = 88$$

Work out the value of $x - y$

Video 270

[3 marks]

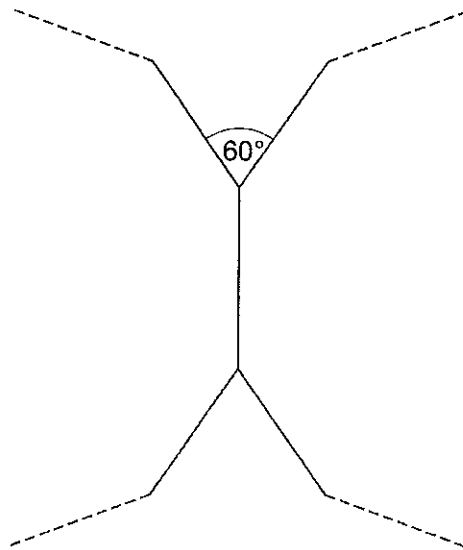
Answer _____



14

Two congruent regular polygons are joined together.

Video 32

Not drawn
accurately

Work out the number of sides on each polygon.

[3 marks]

Answer _____

Turn over for the next question

Turn over ►



15

Meal Deal
Choose one sandwich, one drink and one snack

Video 383

There are
7 different sandwiches
5 different drinks
and
3 different snacks.

15 (a) How many different Meal Deal combinations are there?

[2 marks]

Answer _____

15 (b) Two of the sandwiches have cheese in them.

Three of the drinks are fizzy.

Eva picks a Meal Deal at random.

Work out the probability that the sandwich has cheese in it **and** the drink is fizzy.

Give your answer as a fraction.

[2 marks]

Answer _____

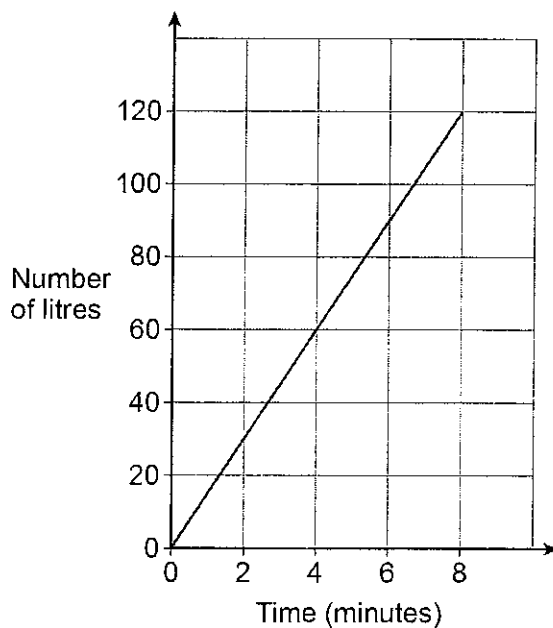


16

Water is poured into a tank.

The graph shows the number of litres of water in the tank.

Video 152



How much water is poured into the tank each minute?

Circle your answer.

[1 mark]

1.5 litres

15 litres

30 litres

120 litres

Turn over for the next question

5

Turn over ►



17

A and B are **similar** solids.

Video 293a

Solid	length (cm)
A	l
B	$2l$

Alex says,

"The volume of B is double the volume of A
because the length of B is double the length of A."

Is he correct?

Tick a box.

Yes

No

Give a reason for your answer.

[1 mark]

18

Circle the **two** roots of $(2x + 3)(5x - 2) = 0$

Video 266

[1 mark]

$-\frac{3}{2}$

$-\frac{2}{5}$

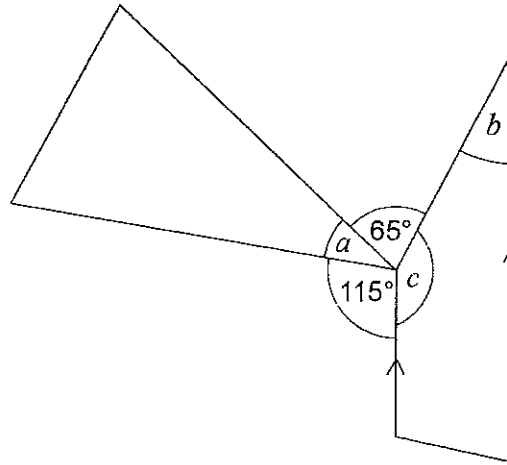
$\frac{2}{5}$

$\frac{3}{2}$



- 19 The diagram shows a triangle and a trapezium.

Video 25
Video 30



Not drawn
accurately

Prove that $a = b$

[3 marks]

Turn over for the next question

5

Turn over ►



20

In one month, the number of hours of exercise taken by 10 people are

4 7 2 8 6 5 1 82 3 9

Which is the appropriate average to use in this situation?

Tick a box.

Video 50
Video 53
Video 56

Mean

Median

Mode

Give one reason for each of the other two averages as to why they are **not** appropriate.

[2 marks]

Reason 1 _____

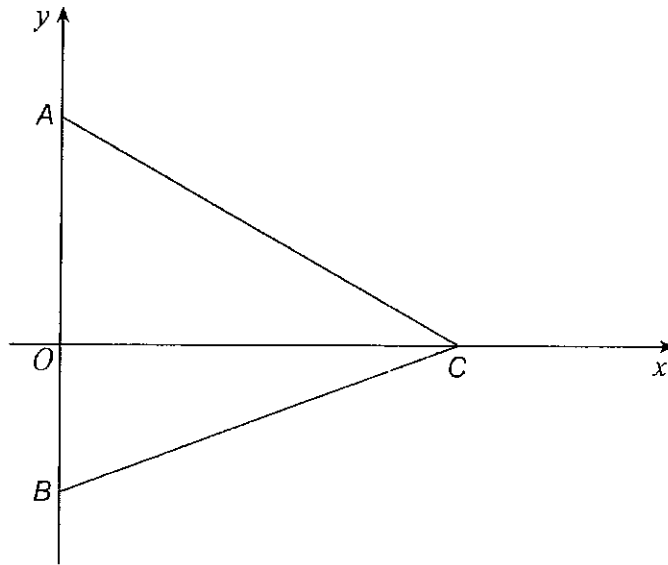
Reason 2 _____



21

A, B and C are points on the axes as shown.

Video 49

Not drawn
accuratelyThe area of triangle ABC is 28 square units.

Work out possible coordinates for A, B and C.

[2 marks]

A (_____ , _____) B (_____ , _____) C (_____ , _____)

Turn over for the next question

4

Turn over ►

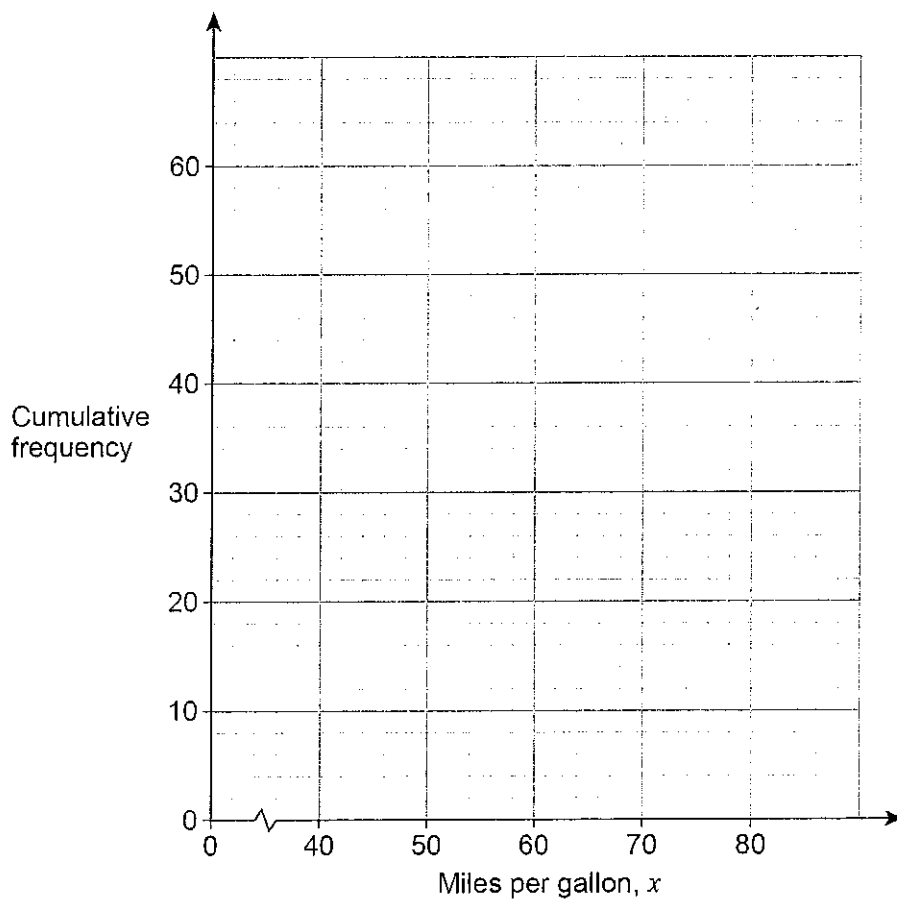
22 Here is some information about the miles per gallon of 60 cars.

Miles per gallon, x	Frequency		
$40 < x \leq 50$	6		
$50 < x \leq 60$	16		
$60 < x \leq 70$	28		
$70 < x \leq 80$	10		

Video 153

22 (a) Draw a cumulative frequency graph.

[3 marks]



22 (b) Use the graph to work out the interquartile range.

Video 154

[2 marks]

Answer _____ miles per gallon

23 The equation of a curve is $y = (x + 3)^2 + 5$

Circle the coordinates of the turning point.

[1 mark]

(5, 3)

(5, -3)

(3, 5)

(-3, 5)

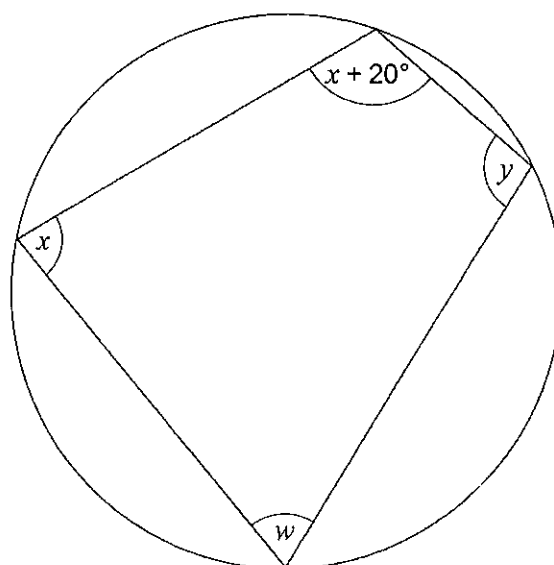
Turn over for the next question

Turn over ►



24

Here is a cyclic quadrilateral.

Video 270
Video 64Not drawn
accurately

$$x : y = 5 : 7$$

Work out the size of angle w .**[4 marks]**

Answer _____ degrees



25

15 machines work at the same rate.

Together, the 15 machines can complete an order in 8 hours.

3 of the machines break down after working for 6 hours.

The other machines carry on working until the order is complete.

In total, how many hours does **each** of the other machines work?

[3 marks]

Answer _____ hours

Turn over for the next question

7

Turn over ►



26 (a) $0.\dot{7} = \frac{7}{9}$

Use this fact to show that $0.0\dot{7} = \frac{7}{90}$

Video 99

[1 mark]

26 (b) Using part (a) or otherwise, convert $0.2\dot{7}$ to a fraction.
Give your answer in its simplest form.

Video 96

[3 marks]

Answer _____



27

There are 11 pens in a box.
8 are black and 3 are red.

Video 252

Two pens are taken out at random **without** replacement.

Work out the probability that the two pens are the **same** colour.

[4 marks]

Answer _____

8

Turn over ►



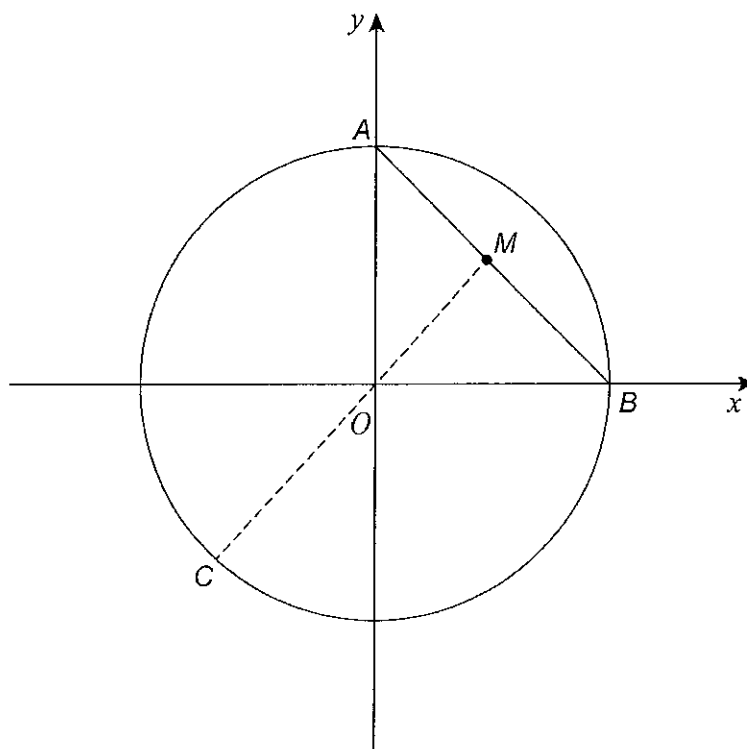
28 A, B and C are points on the circle $x^2 + y^2 = 36$ as shown.

A is on the y -axis.

B is on the x -axis.

M is the midpoint of AB .

COM is a straight line.



28 (a) Show that the coordinates of A are $(0, 6)$

Video 12

[1 mark]

28 (b) Work out the coordinates of B .

Video 12

[1 mark]

Answer (_____ , _____)



- 28 (c) Show that the equation of the straight line passing through C , O and M is $y = x$

Video 190

[2 marks]

- 28 (d) Work out the coordinates of C .
Give your answers in surd form.

Video 257 / 258

[3 marks]

Answer (_____ , _____)

Turn over for the next question

7

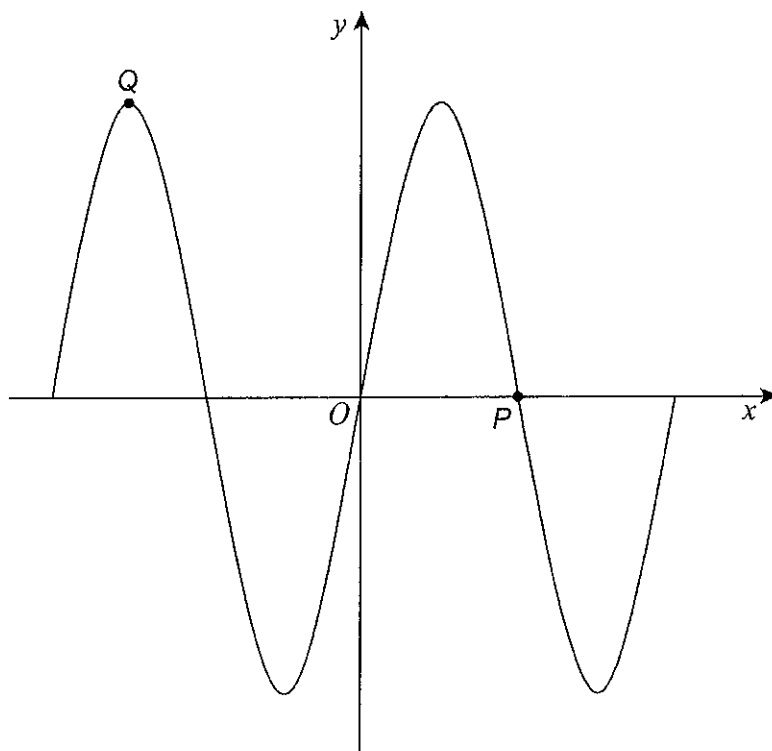
Turn over ►



29

Here is a sketch of $y = \sin x^\circ$ for $-360 \leq x \leq 360$

Video 338

29 (a) Write down the coordinates of P .

[1 mark]

Answer (_____ , _____)

29 (b) Write down the coordinates of Q .

[1 mark]

Answer (_____ , _____)



30 (a) Work out the value of $81^{-\frac{1}{4}}$

Video 173/175

[2 marks]

Answer _____

30 (b) Write 16×8^{2x} as a power of 2 in terms of x .

Video 17

[3 marks]

Answer _____

END OF QUESTIONS

7



There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Copyright Information

For confidentiality purposes, from the November 2015 examination series, acknowledgements of third party copyright material will be published in a separate booklet rather than including them on the examination paper or support materials. This booklet is published after each examination series and is available for free download from www.aqa.org.uk after the live examination series.

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team, AQA, Stag Hill House, Guildford, GU2 7XJ.

Copyright © 2017 AQA and its licensors. All rights reserved.

