

Maths Revision Booklet

for CCEA GCSE 2-tier specification

M4

Neill Hamilton

Name:

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ISBN: 978 1 78073 195 7

First Edition
First Impression

Layout and design: April Sky Design
Printed by: Peninsula Print and Design

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Colourpoint Educational
An imprint of Colourpoint Creative Ltd
Colourpoint House
Jubilee Business Park
21 Jubilee Road
Newtownards
County Down
Northern Ireland
BT23 4YH

Tel: 028 9182 0505
E-mail: sales@colourpoint.co.uk
Web site: www.colourpoint.co.uk

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You are permitted to use a calculator in this examination.



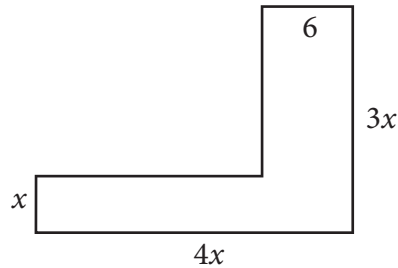
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Dedicated to the 5 best grandchildren in the world Cadence, Lily, Willow, Quinn and Rory and the best marathon runner ever, David.



Revision Exercise 1

1. Look at the shape below. All measurements are in centimetres.



- (a) Show that its area is given by $4x^2 + 12x$

- (b) Find the value of x when the area is 40 cm^2

Answer $x =$ _____

2. (a) Find the equation of the straight line L which passes through the points $(3, -4)$ and $(1, -8)$.
(Hint: You have to learn the coordinate geometry formulae. The formulae are not given in the exam.)

Answer _____

- (b) Find the equation of the straight line which passes through $(-2, 5)$ parallel to L.

Answer _____

- (c) Find the equation of the straight line which passes through $(-2, 5)$ perpendicular to L.

Answer _____

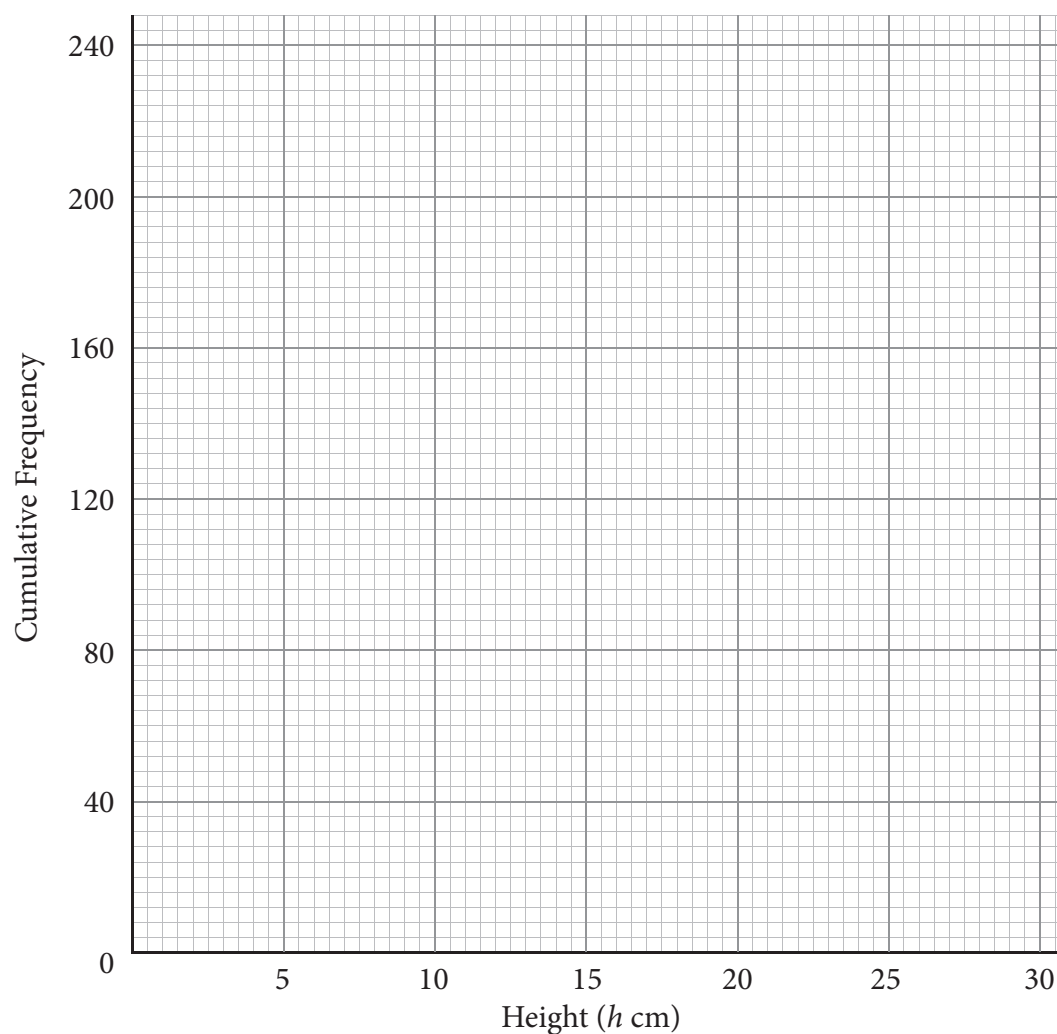
3. The table below shows the heights of 240 objects to the nearest centimetre.

Height (h cm)	1–4	5–8	9–12	13–16	17–20	21–24	25–28
Frequency	10	32	44	78	40	28	8

(a) Complete the cumulative frequency table below.

Height (less than) cm	0.5	4.5	8.5	12.5	16.5	20.5	24.5	28.5
Cumulative Frequency	0	10	42					240

(b) Draw the cumulative frequency curve on the grid below.



(c) Use your cumulative frequency curve to estimate:

(i) the median,

Answer _____ cm

(ii) the inter-quartile range,

Answer _____ cm

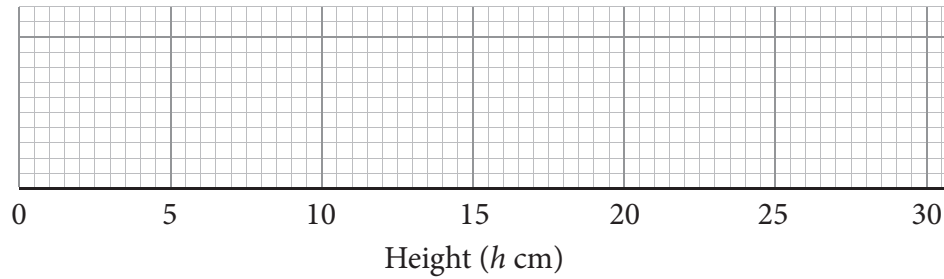
(iii) how many heights are between 7 cm and 22 cm.

Answer _____

(d) The tallest 15% are discarded. Find the tallest height kept.

Answer _____ cm

(e) Draw a box plot of the heights on the grid below.



4. Factorise completely:

(a) $8xn + 4xc - 6n - 3c$

Answer _____

(b) $q^2 - 3q - 40$

Answer _____

(c) $7(f + 3) - 4(f + 3)^2$

Answer _____

(d) $3t^2 - 48v^2$

Answer _____

5. Solve:

(a) $6h^2 + h = 0$

Answer _____

(b) $t^2 - 9t + 18 = 0$

Answer _____