

GCSE Boot Camp

Higher Maths Week 1 Workbook

Questions



GCSE Boot Camp

Topics

Hello! You've made a great decision by signing up for our 8 Week Boot Camp.

Every week you'll get a practice workbook to work through a range of topics, taken from our GCSE Higher Intermediate course.

We've also included links to 2 of our expert tutorial videos on some of these exact questions. That way, if you get stuck, you can try watching one of our tutorial videos with our Maths expert Patricia.

For full access to all of the corresponding videos sign up for a SchoolOnline subscription from £8.99 a month.

In next week's email we'll send you the answers to this workbook to download *PLUS* a brand new workbook to practice.

Your week 1 workbook topic is:

- Algebra
 - Factorising
 - Multiplying out brackets
 - Powers and Roots



Algebra GCSE Higher 1

Factorising

June 2018 Higher Non-Calc Paper 1

15 (a) Factorise $a^2 - b^2$

.....
(1)

(b) Hence, or otherwise, simplify fully $(x^2 + 4)^2 - (x^2 - 2)^2$

.....
(3)

(Total for Question 15 is 4 marks)

Algebra

June 2017 Higher Calc Paper 3

14 (a) Simplify $\frac{x^2 - 16}{2x^2 - 5x - 12}$

.....
(3)

(b) Make v the subject of the formula $w = \frac{15(t - 2v)}{v}$

.....
(3)

(Total for Question 14 is 6 marks)

November 2015 Higher Non-Calc Paper 1

10 (a) Expand $x(x + 2)$

.....
(1)

(b) Expand and simplify $3(y + 2) + 4(x - 1)$

.....
(2)

(c) Expand and simplify $(2t - 3)(t + 5)$

.....
(2)

(d) Factorise fully $8a^2 + 12a$

.....
(2)

(e) Factorise $y^2 - y - 2$

.....
(2)

(Total for Question 10 is 9 marks)

Sample B Higher Calc Paper 2

3 (a) Expand and simplify $3(y - 2) + 5(2y + 1)$

.....
(2)

(b) Simplify $5u^2w^4 \times 7uw^3$

.....
(2)

(Total for Question 3 is 4 marks)

Use of Calculator

Sample B Higher Calc Paper 2

16 (i) Find the value of $\sqrt[5]{3.2 \times 10^{11}}$

(ii) Find the value of $10^{\frac{3}{4}}$
Give your answer correct to 1 decimal place.

(Total for Question 16 is 2 marks)

Indices

June 2017 Higher Non-Calc Paper 1

12 (a) Find the value of $81^{\frac{1}{2}}$

(b) Find the value of $\left(\frac{64}{125}\right)^{\frac{2}{3}}$

(2)

(2)

(Total for Question 12 is 4 marks)

Powers and Roots

June 2018 Higher Calc Paper 2

1 (a) Simplify $m^3 \times m^4$

.....
(1)

(b) Simplify $(5np^3)^3$

.....
(2)

(c) Simplify $\frac{32q^9r^4}{4q^3r}$

.....
(2)

(Total for Question 1 is 5 marks)

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Expert tutorial

GCSE MATHEMATICS
PAPER 1 (Non-Calculator)

15 (a)

- (a) Factorise $a^2 - b^2$
(b) Hence, or otherwise, simplify fully $(x^2 + 4)^2 - (x^2 - 2)^2$

Click to play!

Need some extra help? That's what we're here for!

In this video Patricia will explain how to answer the first question on the Algebra section of your workbook (Q15) which looks at factorising.

Grab your pen and paper and remember to take notes! If you want more access to awesome videos like this, [sign up for a full SchoolOnline subscription here.](#)

GCSE Boot Camp

Expert tutorial

GCSE MATHEMATICS
PAPER 2 (Calculator)

1 (a) $m^3 \times m^4$

(a) Simplify $m^3 \times m^4$

(b) Simplify $(5np^3)^3$

(c) Simplify $\frac{32q^9r^4}{4q^3r}$

Click to play!

Need some extra help? That's what we're here for!

In this video Patricia will explain how to answer the final question on the Algebra section of your workbook (Q1) which looks at Powers and Roots.

Grab your pen and paper and remember to take notes! If you want more access to awesome videos like this, [sign up for a full SchoolOnline subscription here.](#)

