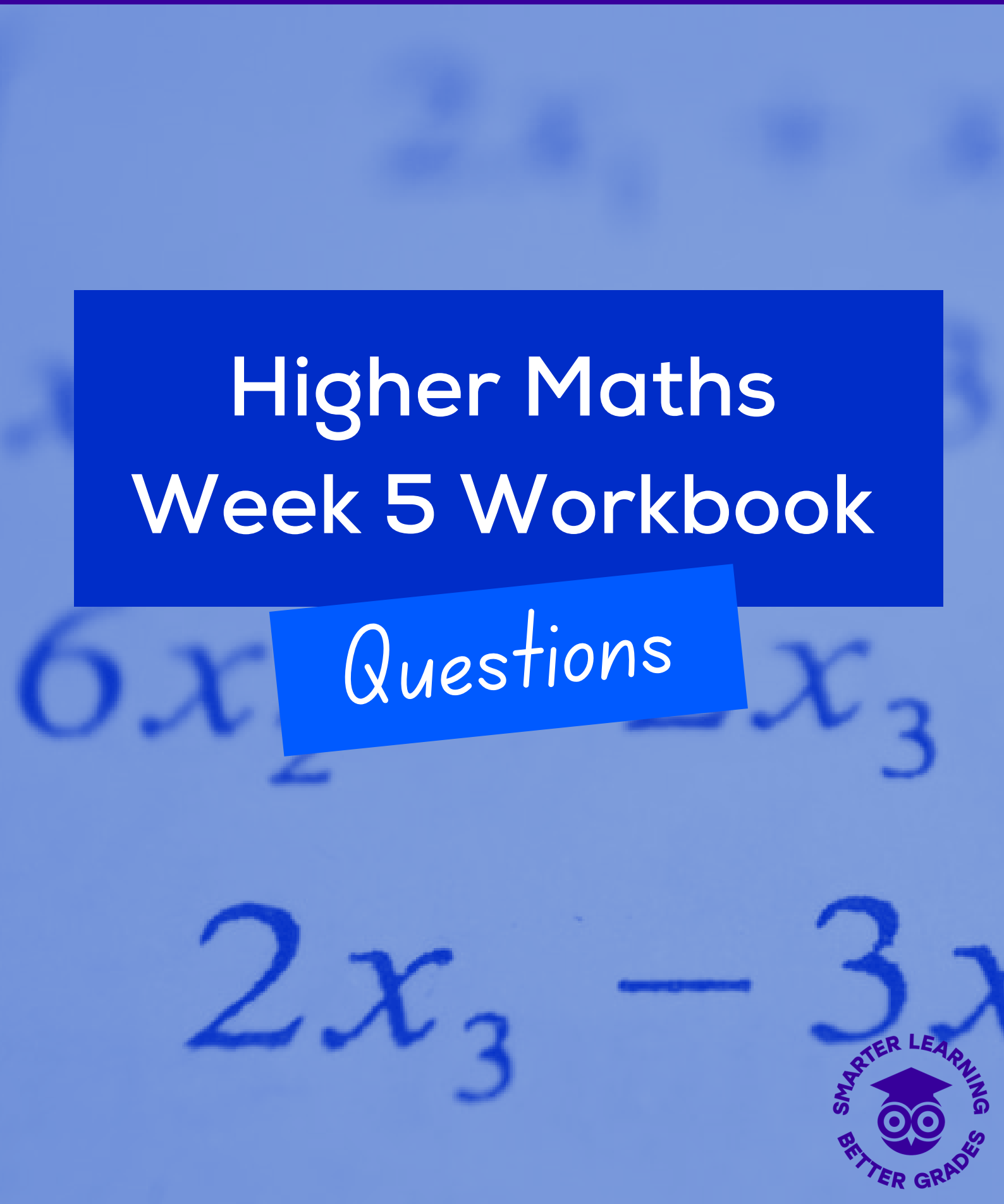
GCSE Boot Camp

Higher Maths
Week 5 Workbook

Questions



GCSE Boot Camp

Topics

Hello! Welcome to week 5 of your 8 week GCSE 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 5 workbook topics are:

- Probability and Statistics
- Geometry

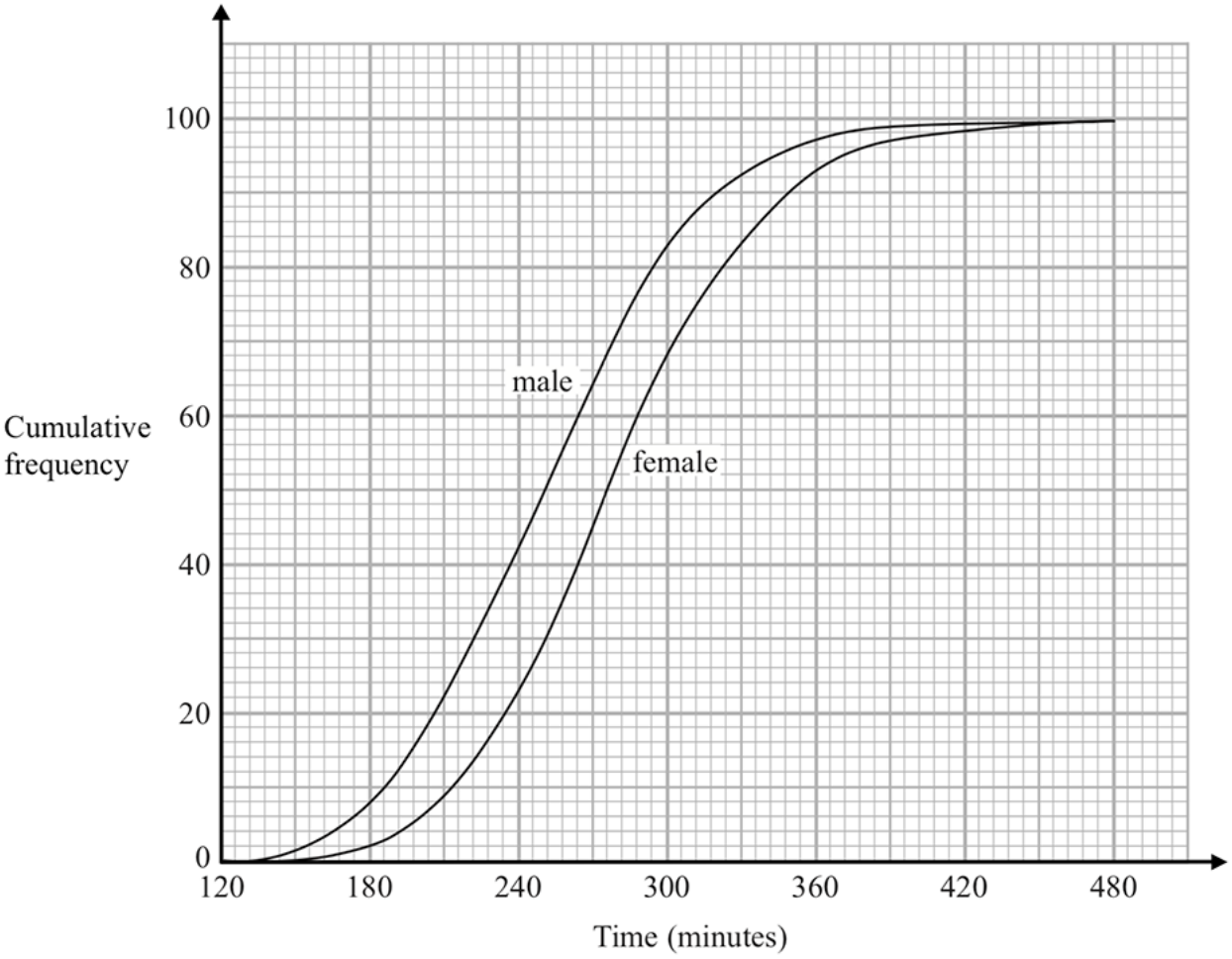
SMARTER LEARNING BETTER GRADES

Probability & Statistics 2

Cumulative Frequency Graph

Sample B Higher Calc Paper 2

11 The cumulative frequency graphs show information about the times taken by 100 male runners and by 100 female runners to finish the London marathon.



A male runner is chosen at random.

(a) Find an estimate for the probability that this runner took less than 4 hours to finish the London marathon.

.....

(2)

Sample A Higher Non-Calc Paper 1

7 There are 1200 students at a school.

Kate is helping to organise a party.
She is going to order pizza.

Kate takes a sample of 60 of the students at the school.
She asks each student to tell her **one** type of pizza they want.

The table shows information about her results.

Pizza	Number of students
ham	20
salami	15
vegetarian	8
margarita	17

Work out how much ham pizza Kate should order.
Write down any assumption you make **and** explain how this could affect your answer.

.....

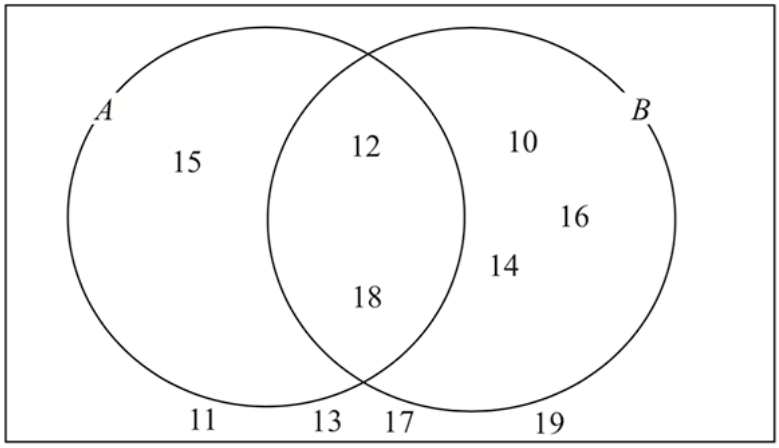
.....

(Total for Question 7 is 3 marks)

Venn Diagrams

Sample B Higher Calc Paper 2

5 Here is a Venn diagram.



(a) Write down the numbers that are in set

(i) $A \cup B$

.....

(ii) $A \cap B$

.....

(2)

One of the numbers in the diagram is chosen at random.

(b) Find the probability that the number is in set A'

.....

(2)

(Total for Question 5 is 4 marks)

June 2018 Higher Calc Paper 3

20 50 people were asked if they speak French or German or Spanish.

Of these people,

31 speak French
2 speak French, German and Spanish
4 speak French and Spanish but not German
7 speak German and Spanish
8 do not speak any of the languages
all 10 people who speak German speak at least one other language

Two of the 50 people are chosen at random.

Work out the probability that they both only speak Spanish.

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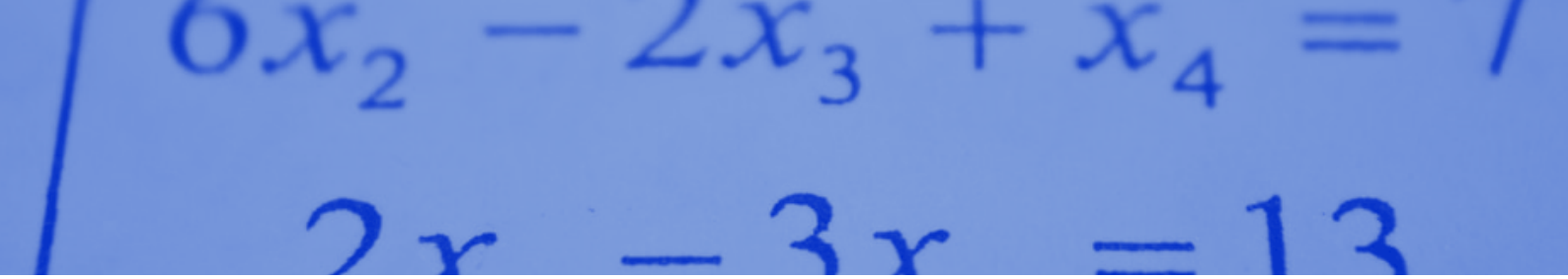
Expert tutorial

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

In this video Patricia will explain how to answer the last question on the Probability and Statistics section of your workbook (Q20).

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.



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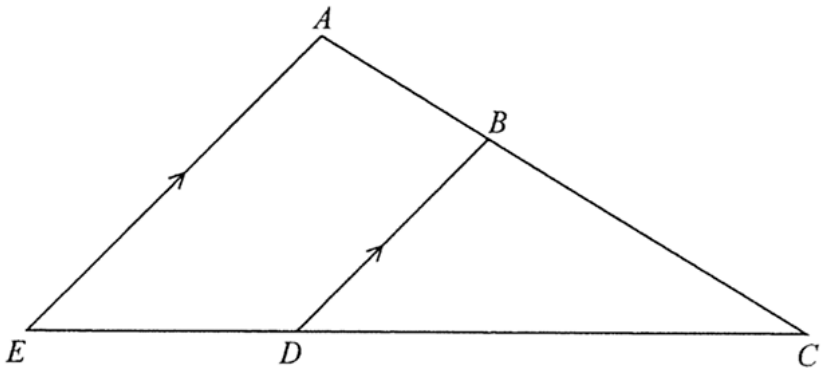
June 2017 Higher Calc Paper 2

5



ABC and *EDC* are straight lines.
EA is parallel to *DB*.

EC = 8.1 cm.
DC = 5.4 cm.
DB = 2.6 cm.

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

..... cm
(2)

AC = 6.15 cm.

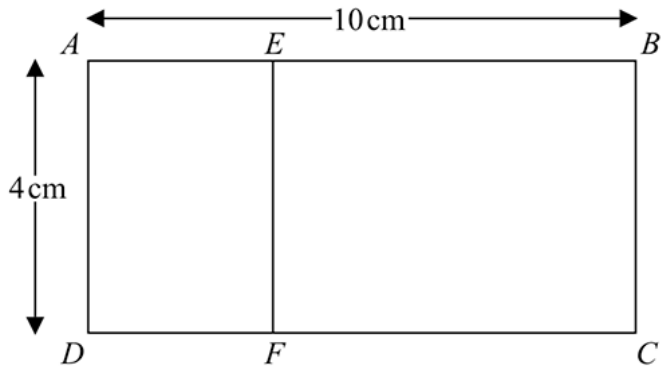
(b) Work out the length of *AB*.

..... cm
(2)

(Total for Question 5 is 4 marks)

Sample A Higher Non-Calc Paper 1

13 Rectangle *ABCD* is mathematically similar to rectangle *DAEF*.



AB = 10 cm.
AD = 4 cm.

Work out the area of rectangle *DAEF*.

..... cm^2

(Total for Question 13 is 3 marks)

June 2018 Higher Calc Paper 3

13 Here are two similar solid shapes.

A

B

surface area of shape **A** : surface area of shape **B** = 3 : 4

The volume of shape **B** is 10 cm^3

Work out the volume of shape **A**.
Give your answer correct to 3 significant figures.

..... cm^3

(Total for Question 13 is 3 marks)

Ratio of Volumes

18 Solid **A** and solid **B** are mathematically similar.
The ratio of the surface area of solid **A** to the surface area of solid **B** is 4 : 9

The volume of solid **B** is 405 cm^3.

Show that the volume of solid **A** is 120 cm^3.

(Total for Question 18 is 3 marks)

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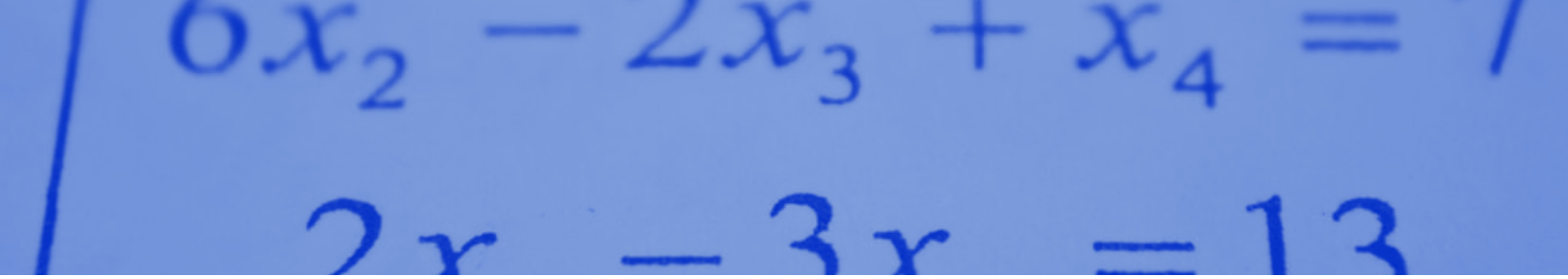
Expert tutorial

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

In this video Patricia will explain how to answer the last question on the Geometry section of your workbook (Q18) which looks at Ratio of Volumes.

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.



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