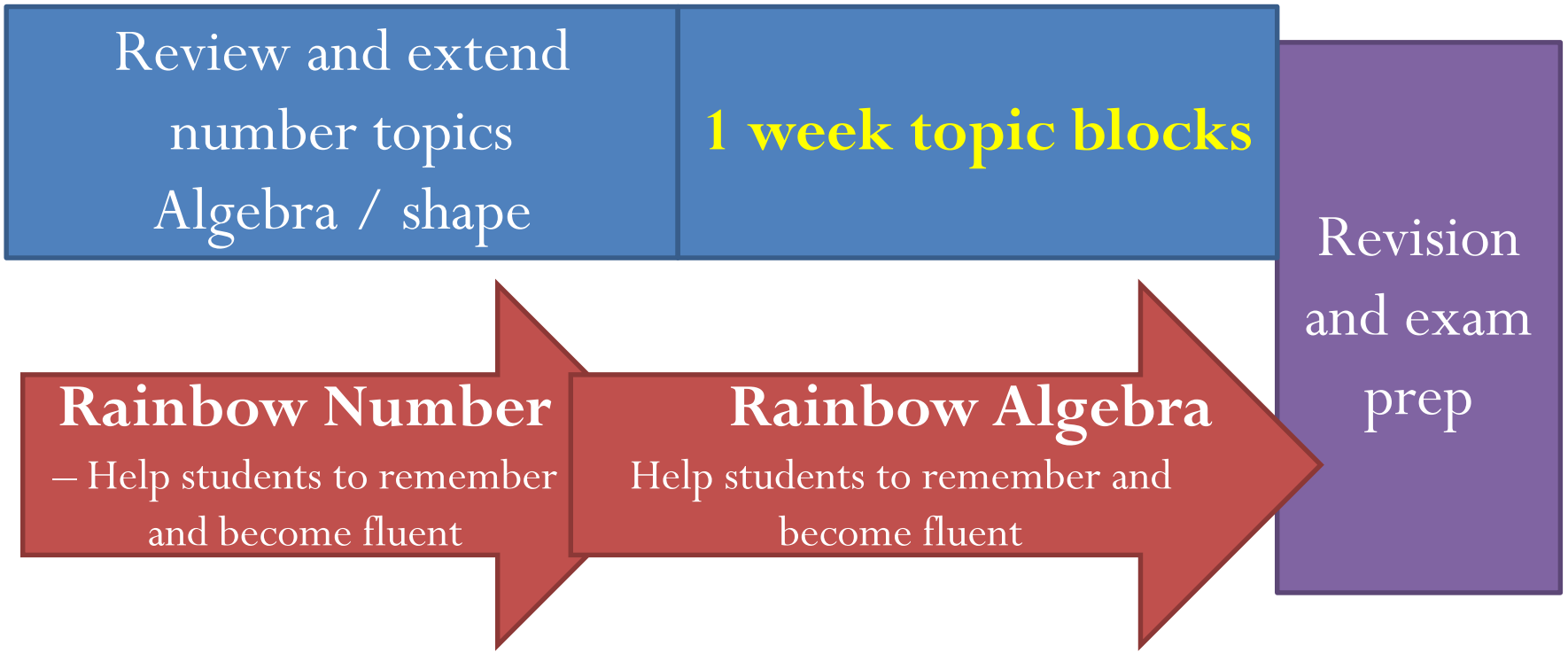
Y9&10 INFORMATION EVENING

MATHEMATICS

SUPPORTING WITH MATHS

- WHAT'S THE PLAN FOR MATHS?
- HOW WELL IS IT GOING?
- MORAL SUPPORT AND KEY MESSAGES
- PRACTICAL SUPPORT

5 YEAR PLAN


Review and extend number topics Algebra / shape
1 week topic blocks
Revision and exam prep
Rainbow Number
– Help students to remember and become fluent
Rainbow Algebra
Help students to remember and become fluent
Y7
Y8
Y9
Y10
Y11

- ONE WEEK BLOCKS GIVE STUDENTS TIME TO CONSOLIDATE
- THEY MAKE IT LESS LIKELY STUDENTS FALL BEHIND

Year 9

Term 1	NUM - primes	RA - simplifying and subs	SSM - Area and Perimeter	NUM - % change 1	ALG - linear equations	NUM - ratio	RA - brackets and factorising	**Half Term Test**
Term 2	SSM - Angles in polygons	ALG - sequences: term-to-term rules	SSM - Pythagoras	PROB - Probability of events	ALG - linear equations	NUM - negatives	ALG - graphs 1	NUM - fraction arithmetic
Term 3	STATS - averages	SSM - Circles	ALG - Arithmetic Sequences	**MID YEAR EXAM**	NUM - % change 2			
Term 4	ALG - Simultaneous Equations (part 1a)	SSM - 2D shape properties	STATS - Representing Data	SSM - Similarity	**NUM - rounding and bounds**	ALG - graphs 2	ALG - linear equations	
Term 5	PROB - tree diagrams	**STATS - Distribution**	SSM - speed, distance and time	NUM - proportion	SSM - Angles and parallel lines			
Term 6	RA - laws of indices	**END OF YEAR EXAMS**	NUM - fraction arithmetic	SSM - Trig	ALG - Simultaneous Equations (part 1b)	ED week / sports day		

Year 10

Term 1	ALG - Quadratic Equations by factorising	NUM - fraction arithmetic	ALG - linear equations	PROB - tree diagrams	**SSM - Circle Theorems**			
Term 2	RA - changing the subject (part 1)	PROB - experimental	SSM - prisms	ALG - y = mx + c (part 1)	SSM - 3D shape properties			
Term 3	NUM - standard form	**ALG - quadratic sequences**	**STATS - Cumulative Frequency Graphs**		**MID-YEAR EXAM**			
Term 4	**ALG - Quadratic Equations by Formula**	SSM - compound measure	PROB - Venn Diagrams	SSM - Transformations	**ALG - direct and inverse proportion**			
Term 5	ALG - forming equations	**SSM - Pythagoras and Trig in 3D**	STATS - Correlation	RA - changing the subject (part 2)				
Term 6	**SSM - Advanced Similarity**	**NUM - Further Bounds**	**MOCK EXAMS (tbc)**	**NUM - Surds (part 1)**		ED week / sports day		

SUPPORTING WITH MATHS

- WHAT'S THE PLAN FOR MATHS?
- HOW WELL IS IT GOING?
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Grades

Higher

Foundation

9 *Top 3% of students*

8

7 → Mapped to old grade A

6

5

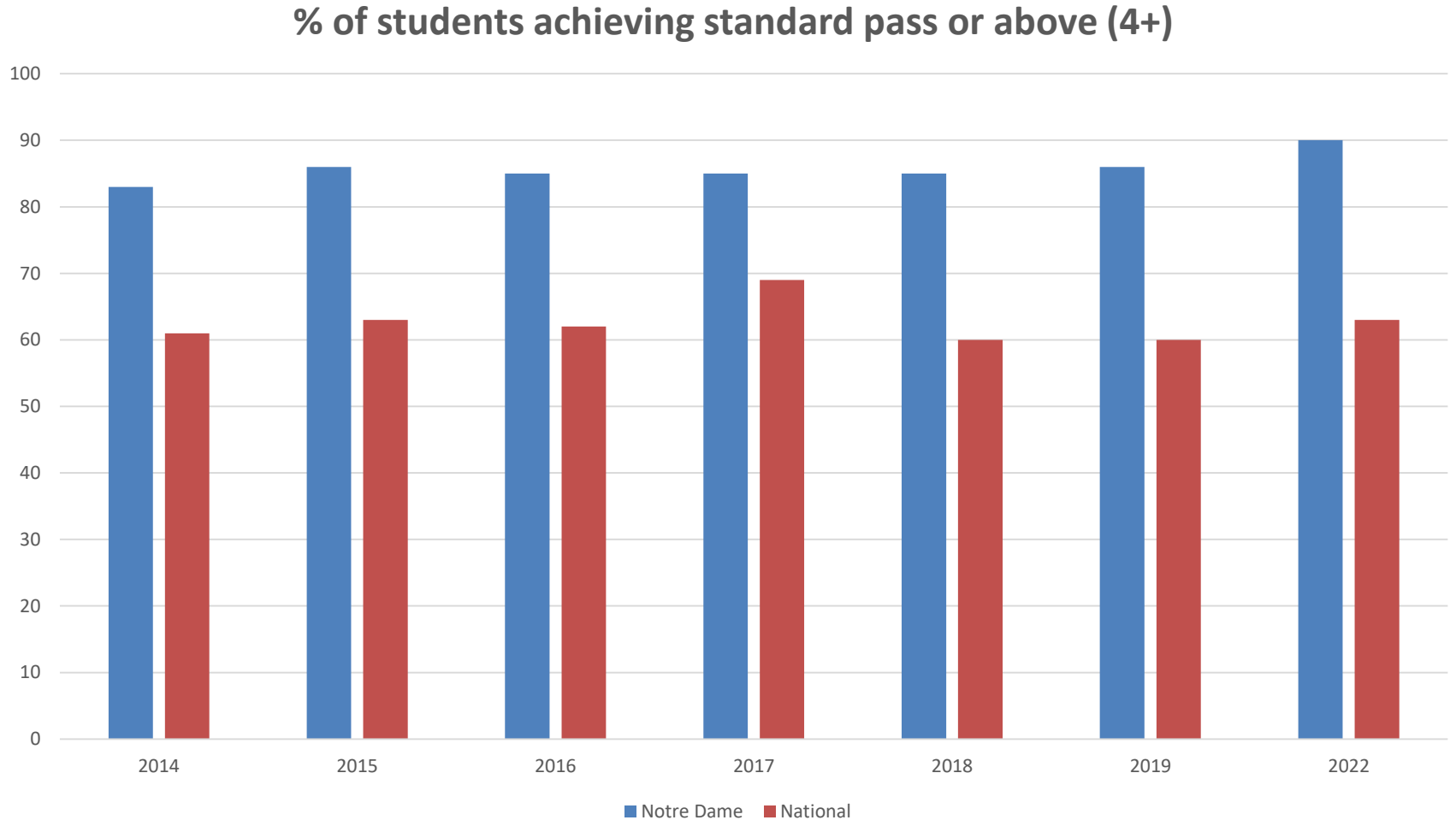
4 → Mapped to old grade C

3

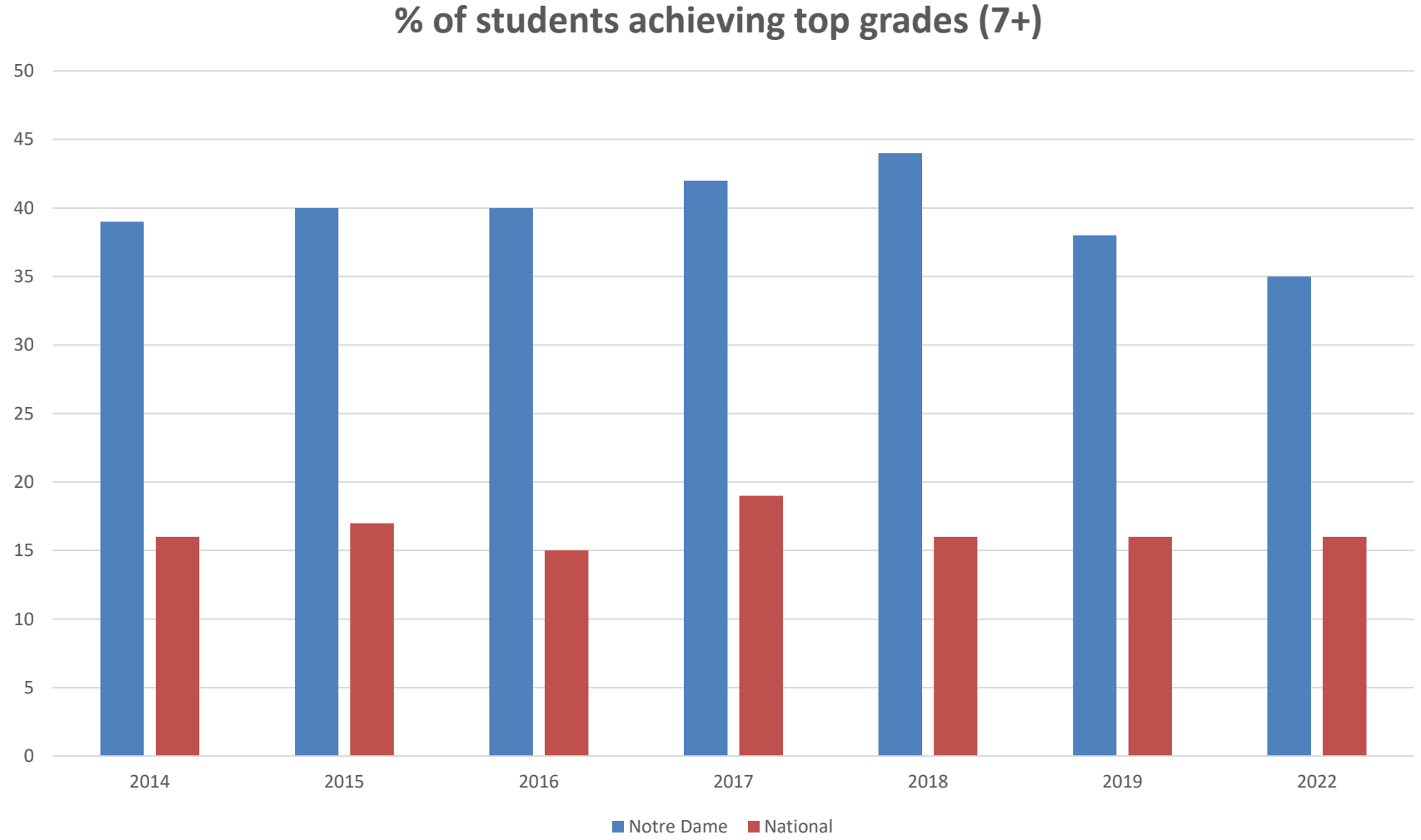
2

1 → Mapped to old grade G

DEPARTMENT RESULTS



DEPARTMENT RESULTS



DEPARTMENT RESULTS

BUT MORE IMPORTANTLY…

Over the last decade, we have been consistently in the top 10% of maths departments in terms of progress.

This year's progress score for maths was

0.52

SUPPORTING WITH MATHS

- WHAT'S THE PLAN?
- HOW WELL IS IT GOING?
- KEY MESSAGES AND MORAL SUPPORT
- PRACTICAL SUPPORT

SUPPORTING WITH MATHS

KEY MESSAGE: GCSE MATHS IS DIFFICULT

STUDENTS NEED TO KNOW IT'S OK NOT TO "GET IT" STRAIGHT AWAY.

THIS MIGHT BE DIFFERENT FROM WHAT HAPPENED WITH PRIMARY / EARLY SECONDARY MATHS.

THEY MIGHT NEED SUPPORT TO HELP THEM UNDERSTAND THIS

EXAMPLES

OLD GCSE

The diagram shows a circular pond with a path around it.

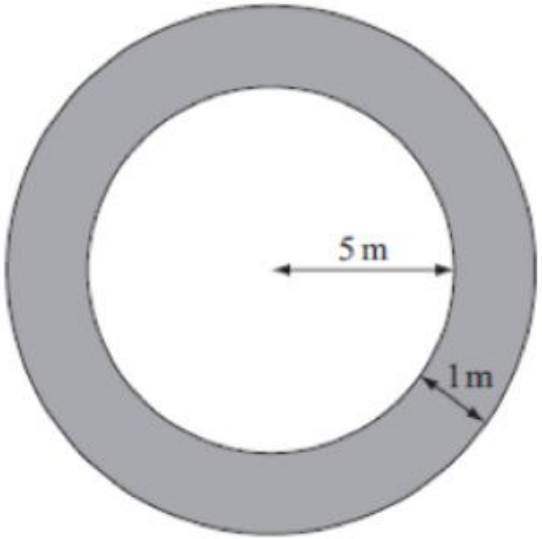


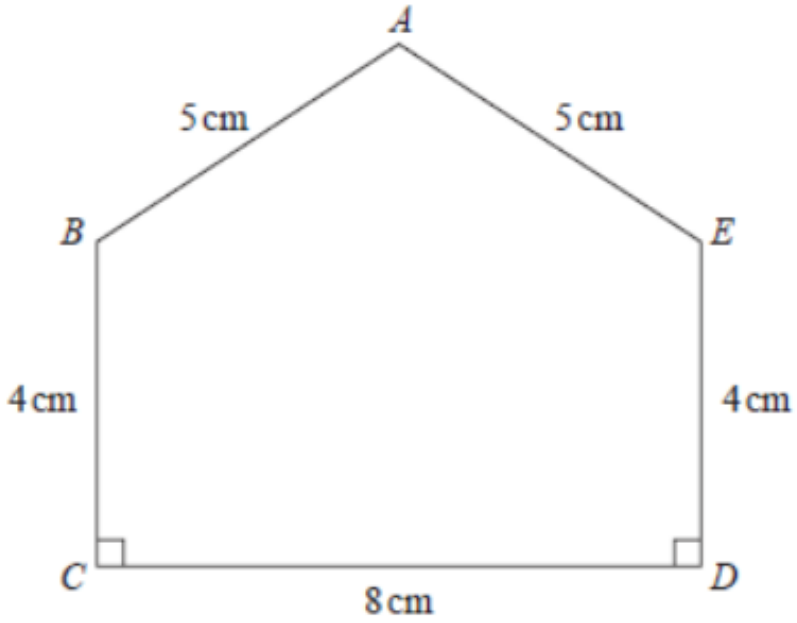
Diagram **NOT** accurately drawn

The pond has a radius of 5m.
The path has a width of 1m.

Work out the area of the path.
Give your answer correct to 3 significant figures.

NEW GCSE

$ABCDE$ is a pentagon.

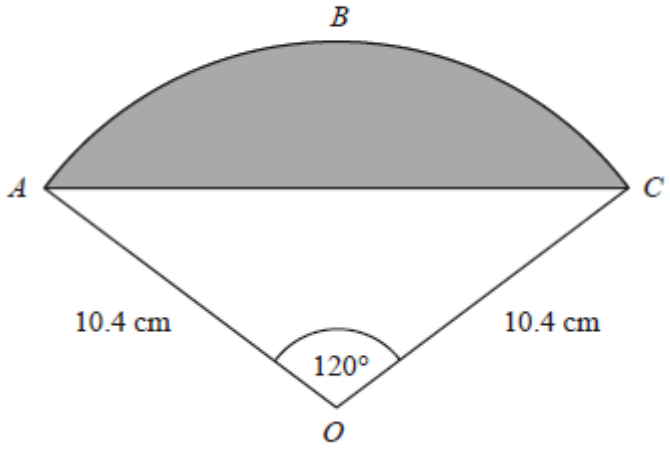


Work out the area of $ABCDE$.

EXAMPLES

OLD GCSE

Diagram **NOT** accurately drawn

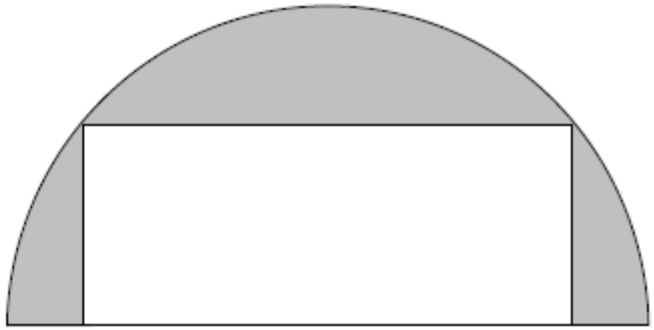


(b) Calculate the area of the shaded segment ABC.
Give your answer correct to 3 significant figures.

NEW GCSE

The diagram shows a rectangle inside a semicircle.

The rectangle has dimensions 16 cm by 6 cm



Work out the shaded area.

Give your answer in terms of π.

HABITS FOR LEARNING MATHS

- MATHS IS LEARNED THROUGH EXAMPLES. STUDENTS NEED TO BE THINKING ABOUT HOW THEY WOULD DEAL WITH EVERY EXAMPLE, NOT JUST WHEN THEY ARE ASKED

- IMITATE THE WORKING SHOWN BY THE TEACHER. SOME STUDENTS CAN DO EASY QUESTIONS WITHOUT WORKING, AND THEN GET STUCK ON MORE CHALLENGING QUESTIONS

- PRACTICE WRITING CLEAR SOLUTIONS. AS THE MATHS GETS HARDER, THOSE WHO RELY ON MENTAL METHODS START TO STRUGGLE.

HABITS FOR LEARNING MATHS

- RESILIENCE IS SOMETHING WE HAVE TO LEARN, AND BUILD UP SLOWLY.
- WE MOSTLY MODEL THE THINKING THAT STUDENTS NEED TO USE.
- BUT SOMETIMES, WE NEED TO LET THEM THINK FOR A MINUTE OR TWO BEFORE GIVING GUIDANCE

Jon has 78p

Nat has £3.52

Nat gives Jon some money so that they both have the same amount.

How much does Nat give Jon?

SUPPORTING WITH MATHS

- WHAT'S THE PLAN?
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SUPPORTING WITH MATHS

- STUDENTS NEED TO PRACTICE AS MUCH AS POSSIBLE
- IN SCHOOL, WE WILL REGULARLY CREATE CALM SPACES TO PRACTICE
- ANY STRUCTURE AT HOME THAT HELPS GIVE TIME FOR PRACTICE IS REALLY HELPFUL.
- PRACTICE MAKES YOU FASTER AND MORE CONFIDENT BUT ALSO YOU NEW KNOWLEDGE CHANGES HOW YOU THINK
- HERE IS AN EXAMPLE

THE VALUE OF PRACTICE

07382863494

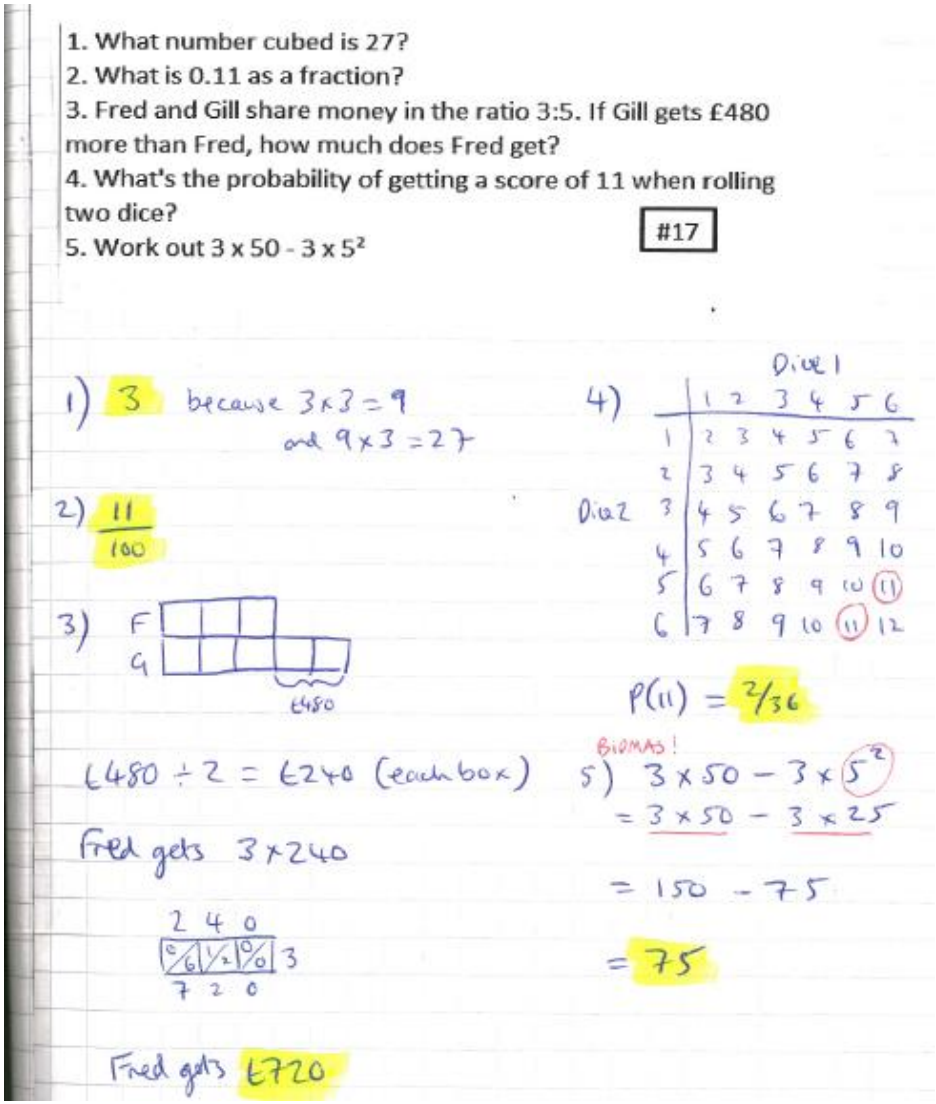
01141066365

01141066365

HAVING EXTRA KNOWLEDGE AND SKILL CAN MAKE NEW TASKS MUCH EASIER

WHERE TO PRACTICE

STUDENTS CAN PRACTICE THEIR QUIZZES

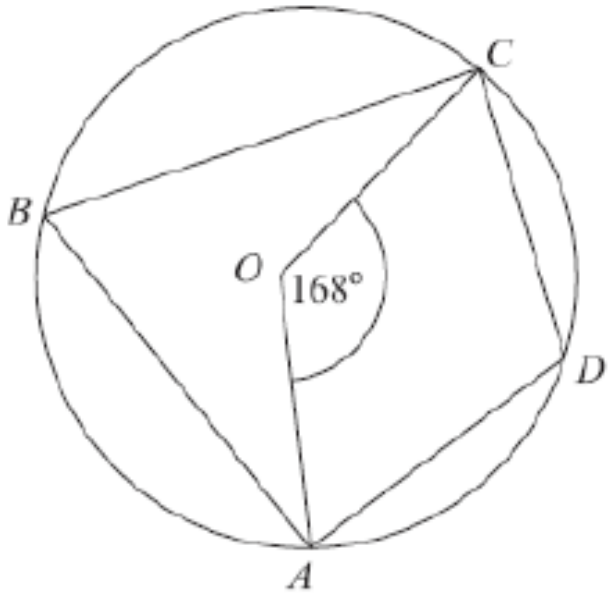


WHERE TO PRACTICE

- HEGARTY MATHS
- DRFROSTMATHS.COM

- KHAN ACADEMY
- MATHS GENIE FOR SPECIFIC TOPICS
- CORBETT MATHS

FAQS
TUTORS



A, B, C and D are points on the circumference of a circle, centre O.

Angle $AOC = 168°$

Work out the size of angle ADC.
You must give reasons for your working.