Never Stop Flying

# Mathematics

Achieving Excellence through a Values Driven Education

# QLA – Recent Trial

Higher

Mathematics

## Maths Trial – February 2025

Name:
Class:

Grade: 5
Total Marks: 110
Marks from next grade: 2

You should use your question level analysis to help close the gaps in your current maths knowledge.

For some of these gaps and questions, you will go over again in class, but some will be individual to you.

Use **Sparx Maths** and **Dr Frost** to help improve and close the gaps.

Using your analysis grids from your recent trial exam.

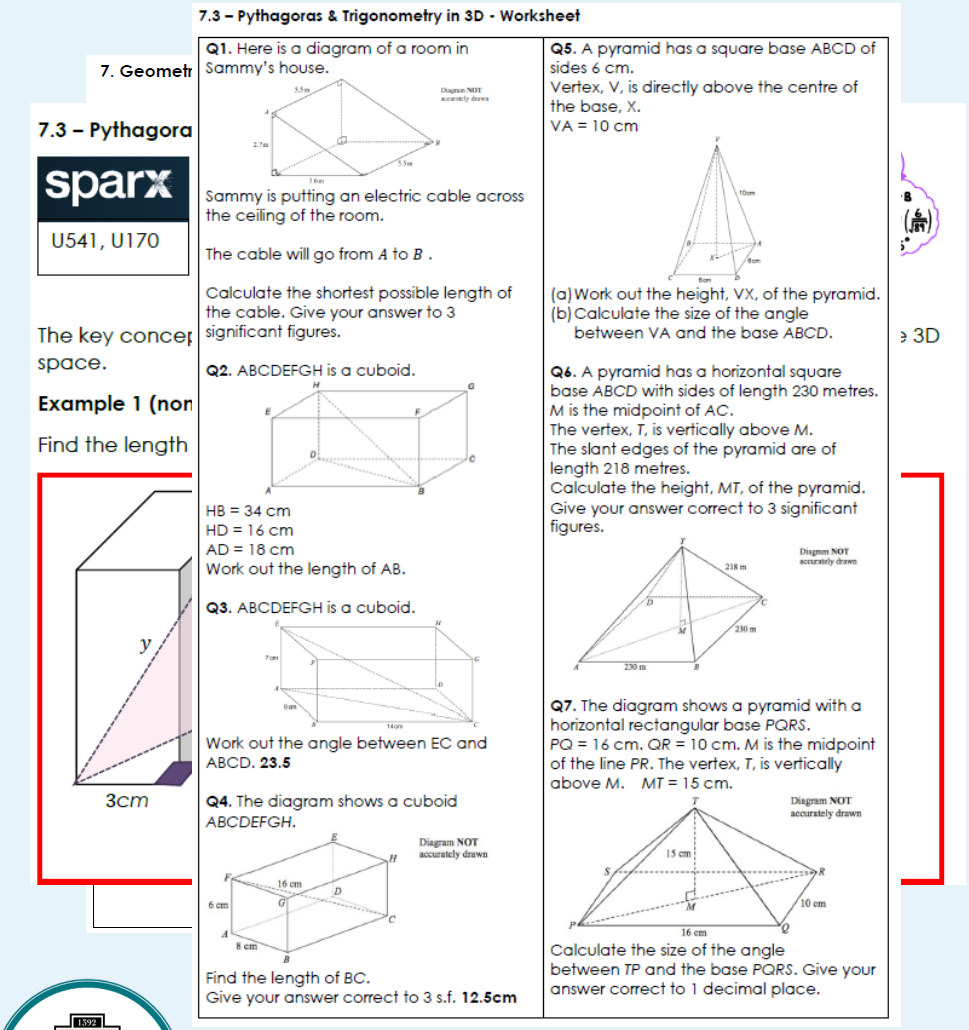
Look at your "Red" and "Amber" topics first.

Revise and practice these topic using the Sparx Maths codes

| | | | |
|---|---|---|---|
| 13a | Writing probabilities as fractions | 1 / 1 | U408 |
| 13b | Probabilities of mutually exclusive events | 1 / 1 | U683 |
| 14 | Substituting into algebraic formulae | 2 / 2 | U585 |
| 15a | Estimating calculations | 2 / 2 | U225 |
| 15b | Multiplying and dividing with place value | 0 / 1 | U735 |
| 16a | Calculating with speed | 3 / 3 | U151 |
| 16b | Calculating with speed | 1 / 1 | U151 |
| 17a | Frequency trees | 3 / 3 | U280 |
| 17b | Frequency trees | 0 / 2 | U280 |
| 18 | Solving direct proportion word problems | 2 / 2 | U721 |
| 19 | Percentage change without a calculator | 3 / 3 | U773 |
| 20 | Adding and subtracting fractions | 0 / 3 | U736 |
| 21 | Drawing stem-and-leaf diagrams | 3 / 3 | U200 |
| 22 | Plans and elevations, Finding the volume of cylinders | 1 / 3 | U743, U915 |
| 23 | Solving single inequalities | 1 / 2 | U759 |
| 24 | Prime factor decomposition | 2 / 2 | U739 |
| 25 | Sharing amounts in a given ratio, Finding fractions and percentages of amounts | 1 / 5 | U577, U881, U554 |

Be Kind

# Booklets



7. Geometr

7.3 – Pythagora

sparx

U541, U170

The key concep
space.

**Example 1 (non**

Find the length




**7.3 – Pythagoras & Trigonometry in 3D - Worksheet**

**Q1.** Here is a diagram of a room in Sammy's house.



Sammy is putting an electric cable across the ceiling of the room.

The cable will go from *A* to *B* .

Calculate the shortest possible length of the cable. Give your answer to 3 significant figures.

**Q2.** ABCDEFGH is a cuboid.



HB = 34 cm
HD = 16 cm
AD = 18 cm
Work out the length of AB.

**Q3.** ABCDEFGH is a cuboid.



Work out the angle between EC and ABCD. **23.5**

**Q4.** The diagram shows a cuboid *ABCDEFGH*.




Find the length of *BC*.
Give your answer correct to 3 s.f. **12.5cm**

**Q5.** A pyramid has a square base ABCD of sides 6 cm.
Vertex, V, is directly above the centre of the base, X.
VA = 10 cm



(a) Work out the height, VX, of the pyramid.
(b) Calculate the size of the angle between VA and the base *ABCD*.

**Q6.** A pyramid has a horizontal square base *ABCD* with sides of length 230 metres.
*M* is the midpoint of *AC*.
The vertex, *T*, is vertically above *M*.
The slant edges of the pyramid are of length 218 metres.
Calculate the height, *MT*, of the pyramid.
Give your answer correct to 3 significant figures.




**Q7.** The diagram shows a pyramid with a horizontal rectangular base *PQRS*.
*PQ* = 16 cm. *QR* = 10 cm. *M* is the midpoint of the line *PR*. The vertex, *T*, is vertically above *M*. *MT* = 15 cm.




Calculate the size of the angle between *TP* and the base *PQRS*. Give your answer correct to 1 decimal place.

Using your analysis grids from your recent trial exam, identify the topics that you require more practice on.

Find these within the booklets accumulated over the year, read over the worked examples and then completed the associated worksheet.

Aim High

# Enrichment (Past Paper Club)

In the run up to the real summer exams, each Wednesday we will offer a past paper club.

You will be given a past paper to complete with maths specialists on hand to support via 1-1 or live whole class modelling

Final answers are provided so you can self-assess easily and then identify the questions you need support with.

If you can't attend, then a paper will be given to you to take away and complete at home.

# Revision Lists and Worksheets

| Topic | Video Explanation | Exam Questions | Solutions | Grade | Past Series Appearance* |
|---|---|---|---|---|---|
| Angles in Polygons | | PDF | PDF | 5+ | 64% |
| Averages from Grouped Frequency Tables | | PDF | PDF | 5+ | 100% |
| Bearings | | PDF | PDF | 5+ | 45% |
| Compound Interest | | PDF | PDF | 5+ | 100% |
| Equation of a line (y = mx + c) | | PDF | PDF | 5+ | 27% |
| Equations (Unknowns on both sides) | | PDF | PDF | 5+ | 91% |
| Equations of Parallel Lines | | PDF | PDF | 5+ | 36% |

For extra practice – Go to 1st class maths [GCSE (Edexcel) Revision | 1st Class Maths]

Filter by Grade;
Foundation: Grades 1 to 5

Higher: Grades 4 to 9.

Prioritise topics with a high past series appearance rate

Be Proud