DMHS Mathematics Department

INTENT statement

Students of all ages and starting points learn and think with substantive and disciplinary knowledge.

Mathematics is a creative and connected discipline, which empowers students to become responsible and critical citizens. As a universal language, mathematics enables students to make informed judgements about the world around them and participate in discussions in wider society. It is relevant to other school subjects and has utility in both students' future studies and in the world of work.

Our curriculum is challenging and accessible to all students. It combines substantive and disciplinary mathematical knowledge:

- *Substantive knowledge* includes content (concepts and procedures) of the subject. Our curriculum is designed so that students develop fluency of the fundamentals of mathematics. This is achieved through explicit teaching and regular opportunities for retrieval practice.

- *Disciplinary knowledge* includes the forms of reasoning, problem solving and inquiry that are unique to the discipline. Our curriculum is designed so that students learn how to reason mathematically by conjecturing, generalising, and proving. It also enables students to learn to solve routine and non-routine problems using heuristics specific to the discipline.

We believe that students of *all ages and starting points* should learn about both forms of knowledge with an appropriate level of structure. Through the understanding and application of substantive and disciplinary knowledge, students are empowered to become independent learners who are capable of expressing their curiosity in domain-specific ways and of directing their own mathematical inquiries by the end of secondary school.