



YEAR 9 PANGARAU MATHEMATICS 2024

TERM 1 11 weeks

Weeks

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| 1. | Geometry TEST | 5 |
| 2. | Number TEST | 5 |
| 3. | Linear Algebra | 1 |

TERM 2 9 weeks

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| 3. | Linear Algebra | 1 |
| 4. | Measurement TEST | 4 |
| 5. | Patterns and Graphs TEST | 3 |
| 6. | Probability | 1 |

TERM 3 9 weeks

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| 6. | Probability | 4 |
| 7. | Linear Algebra - Equations TEST | 5 |

TERM 4 7 weeks

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| 8. | Percentages TEST | 4 |
| 9. | Transformation Geometry | 3 |

Rangi Values	How will ākonga demonstrate these values?	Rangi Graduate Dispositions	How will ākonga develop these dispositions?	Culturally Empowering Pedagogy		
Respect/Whakaute	Ākonga will show respect for their classmates at all times, understanding the need for differentiation, and differing paces of learning. Ākonga will show respect for the subject and Kaiako by completing homework, listening and following all instructions.	Be You	Ākonga are encouraged to be curious through asking questions. Ākonga are encouraged to develop their learning strategies through trying different approaches to see what works for them.	Tikanga, Te Reo Maori and Mātauranga Maori will be woven into this learning through:	Kaiako and Ākonga are encouraged to use te reo maori where they feel appropriate/confident. The environment will demonstrate Manaakitanga for all Ākonga. Authentic mātauranga maori mathematical contexts will be included where appropriate. All Ākonga will see where the Mathematics being studied is relevant to them – purpose, how it relates to them and fits into their world (the Kaupapa).	
Aroha	Ākonga will support other learners by participating in an inclusive and positive classroom culture	Belong	Ākonga are encouraged to link their learning to personal experiences and local contexts (e.g. real-life contexts and datasets, Numeracy examples)			
Enthusiasm & Endeavour Rikarika & Ngana	Ākonga will strive for their own personal best in learning, and will be encouraged to attempt extension activities, online practice, and attend offered tutorials.	Be The Change	Ākonga are encouraged to be creative with solutions and developing original solutions.			Opportunities for cultures of other students will be incorporated through:
Generosity of Spirit Manaakitanga	Ākonga will support each other and provide support for others when needed, helping classmates when appropriate.	Be Your Best	Ākonga are encouraged to strive for their own personal best in their learning – personalised learning.			
Integrity/Tika	Ākonga will show integrity by ensuring they submit authentic evidence of their learning.					

Progress outcomes typically by the end of year 9		
Understand/ kia mārama	Know/ kia mōhio	Do/kia mahi
<ul style="list-style-type: none"> * The world is full of patterns and structures that we use mathematics to understand * The world is characterised by change and variation that we use mathematics to understand * Mathematical logic and reasoning enable us to identify and explain relationships and to justify conclusions. * The interface between mātauranga Māori and mātauranga mathematics offers opportunities for insights that uphold the integrity of each knowledge system * Mathematics has a continuous, evolving human history. 	<ul style="list-style-type: none"> * add and subtract fractions with different denominators by using equivalent fractions * multiply and divide two integers, two fractions, or two decimals * find fractions or percentages of a number * simplify fractions using the highest common factor * operate on numbers with whole-number exponents and develop the rule for multiplying or dividing numbers with exponents and the same base * express functions arising from linear and simple quadratic patterns * graph linear functions and interpret the gradient, x-intercept, and y-intercept in relation to the function or the practical situation represented * substitute into, rearrange, and simplify expressions, combining like terms as needed 	<ul style="list-style-type: none"> * Te tūhura pūāhua Investigating situations * Te whakaata pūāhua Representing situations * Te tūhono pūāhua Connecting situations * Te whakatauwāhānui i ngā kitenga Generalising findings * Te whakamārama me te parahau i ngā kitenga Explaining and justifying findings

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| | <ul style="list-style-type: none">* create or use a formula, rule, equation, and solve for unknowns, and evaluate by substitution* estimate, calculate, and represent accurate measurements* use the formula for the perimeter or circumference of circles* find the volume of prisms* reason about unknown angles in situations involving parallel lines and transversals and the interior and exterior angles of polygons* use invariant properties to transform a set of points in the XY plane by translation, reflection about an axis, and rotation about a given point by a multiple of 90 degree* plan probability experiments that use real data to create probability distributions for numerical variables, run simulations, and record data | |
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