# **Lanyon High School**

## Year 10 — Australian Curriculum: Mathematics

| ldentify<br>curriculum      | Achievement<br>standard  | other applied situations, applying linear, quadratic<br>relations using digital tools. They solve problems in<br>Students interpret and use logarithmic scales repre<br>Students apply Pythagoras' theorem and trigonome<br>mathematical modelling to solve practical problem<br>and algorithms to solve spatial problems. Students<br>They plan and conduct statistical investigations in<br>analyse inferences and conclusions in the media, m  | and exponential functions as appropriate, and s<br>ivolving simultaneous linear equations and linear<br>esenting small or large quantities or change in a<br>etry to solve practical problems involving right-a<br>is involving proportion and scaling, evaluating a<br>s interpret networks used to represent practical s<br>volving bivariate data. Students represent the dis<br>noting potential sources of bias. Students compa   | alculations. They use mathematical modelling to solve<br>solve related equations, numerically and graphically. St<br>ar inequalities in 2 variables graphically and justify solu<br>oplied contexts. They solve measurement problems inve<br>ngled triangles. They identify the impact of measureme<br>and modifying models, and reporting assumptions, met<br>situations and describe connectedness.<br>stribution of data involving 2 variables, using tables an<br>are the distribution of continuous numerical data usin<br>pompound events. Students design and conduct simulation  | dents<br>utions.<br>olving<br>nt erro<br>hods a<br>d scat<br>g vario |
|-----------------------------|--|---|--|--|--|
| Teaching<br>and<br>learning | Term<br>overview   | <ul> <li>Term 1</li> <li>NUMBER AND ALGEBRA <ul> <li>Students recognise the effect<br/>of approximations of real numbers<br/>in repeated calculations</li> </ul> </li> <li>They use mathematical modelling to solve<br/>problems involving growth and decay in<br/>financial and other applied situations,<br/>applying linear, quadratic and exponential<br/>functions as appropriate, and solve related<br/>equations, numerically and graphically.</li> </ul>  | <ul> <li>Term 2</li> <li>NUMBER AND ALGEBRA <ul> <li>They solve problems involving simultaneous linear equations and linear inequalities in 2 variables graphically and justify solutions.</li> <li>Students make and test conjectures involving functions and relations using digital tools.</li> </ul> </li> <li>MEASUREMENT <ul> <li>They solve measurement problems involving surface area and volume of composite objects.</li> <li>They identify the impact of measurement errors on the accuracy of results.</li> </ul> </li> </ul> | <ul> <li>Term 3</li> <li>MEASUREMENT <ul> <li>Students apply Pythagoras' theorem and trigonometry to solve practical problems involving right-angled triangles.</li> </ul> </li> <li>GEOMETRY <ul> <li>They use deductive reasoning, theorems and algorithms to solve spatial problems.</li> <li>Students interpret networks used to represent practical situations and describe connectedness</li> </ul> </li> <li>PROBABILITY <ul> <li>They apply conditional probability to solve problems involving compound events.</li> <li>Students design and conduct simulations involving conditional probability, using digital tools.</li> </ul> </li> </ul> | ME   |
|                             | General<br>capabilities and<br>Cross<br>curriculum<br>priorities | Image: Interacy       Image: Interacy         Image: Interacy       Interacy         Image: Interact Interact       Interact         Image: Interact | Critical and creative thinking<br>Critical and creative thinking<br>Asia and Australia's engagem   |  | al unde  |

blems involving growth and decay in financial and nts make and test conjectures involving functions and ns.

LANYON HIGH SCHOO

ng surface area and volume of composite objects. rrors on the accuracy of results. Students use s and findings. They use deductive reasoning, theorems

atter plots, and comment on possible association. They rious displays, and discuss distributions in terms of involving conditional probability, using digital tools.

#### Term 4

#### TATISTICS

- Students compare the distribution of continuous numerical data using various displays, and discuss distributions in terms of centre, spread, shape and outliers.
- They plan and conduct statistical investigations involving bivariate data.
- Students represent the distribution of data involving 2 variables, using tables and scatter
- plots, and comment on possible association.They analyse inferences and conclusions in the
- media, noting potential sources of bias.

#### IEASUREMENT

- Students interpret and use logarithmic scales representing small or large quantities or change in applied contexts.

#### IODELLING

 Students use mathematical modelling to solve practical problems involving proportion and scaling, evaluating and modifying models, and reporting assumptions, methods and findings.

### 🖩 🔍 🕫 🐗 👘

derstanding

| Develop<br>assessment                    | Assessment | Term 1   |                           | Term 2 |   | Term 3 |                                     | Term 4 |                       |
|--|------------|--|---------------------------|--------|---|--------|-------------------------------------|--------|-----------------------|
|  |            | Week   | Assessment instrument     | Week   | Assessment instrument                           | Week   | Assessment instrument               | Week   | Assessment instrument |
|  |            | 4  | Real numbers              | 13     | Simultaneous Equations and<br>Linear Equalities | 3      | Pythagoras and Trigonometry         | 14     | Statistics Assignment |
|  |            | 10   | Equations and Expressions | 15     | Functions and Relations                         | 7      | Congruence, similarity and networks | 15     | Logarithmic Scales    |
|  |            |  |                           | 20     | Measurement                                     | 9      | Probability                         | 16     | Modelling             |
| Make<br>judgments<br>and use<br>feedback |            |  | Term 1                    |        | Term 2  |        | Term 3                              |        | Term 4                |
|  | Moderation | Teachers moderate assessment tasks to ensure consistency of judgments. |                           |        |   |        |                                     |        |                       |