

MAP4C – Exam Review and Recommended Practice Questions

Formulas you need to know, and know how to use, for the exam:

Unit 1: Trigonometry

The Pythagorean Theorem: $c^2 = a^2 + b^2$

sohcahtoa: $\sin \theta = \frac{\textit{opposite}}{\textit{hypotenuse}}$, $\cos \theta = \frac{\textit{adjacent}}{\textit{hypotenuse}}$, $\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}}$

sohcahtoa 2.0: $\sin \theta = \frac{y}{r}$, $\cos \theta = \frac{x}{r}$, $\tan \theta = \frac{y}{x}$

*The Sine Law: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

*The Cosine Law: $c^2 = a^2 + b^2 - 2ab \cos C$

Unit 2: Algebraic Models

Exponent Laws - **Product Rule**
- **Quotient Rule**
- **Power of a Power Rule**
- **Negative Exponents**
- **Zero Exponents**

Unit 3: Graphical Models

Linear Relation: $y = mx + b$

Exponential Relation: $y = a \times b^x$

Quadratic Relation: $y = ax^2 + bx + c$

Unit 4: Statistics

Per-Capita Value

Percent Change: **Percent change** = $\frac{\textit{new value} - \textit{old value}}{\textit{old value}} \times 100\%$

*Percentile Rank: $p = \left(\frac{L+0.5E}{n} \right) \times 100\%$

Position of Score with Given Percentile: $(n \times p) + 1$ if $(n \times p)$ is a whole number
 $(n \times p)$ **rounded up** if $(n \times p)$ is a decimal number

Weighted Mean

*These formulas will be given, as will all perimeter, area, surface area, volume formulas.

Practice Questions

Please note:

- You will not be required, nor permitted, to use a graphing calculator on the final exam.
- You will, however, need to be able to interpret the output from a graphing calculator.

Unit 1: Trigonometry

Pg. 130 – 131: 1 – 15

Unit 2: Algebraic Models

Pg. 390 – 391: 1 – 17 (skip #11)

Unit 3: Graphical Models

Pg. 332 – 333: 1 – 8

Unit 4: Statistics

Pg. 256 – 257: 1 – 10

Unit 5: Measurement and Geometry

Pg. 64 – 65: 1 – 9

There will be some perimeter and area of composite shapes.

There will be some surface and volume of composite figures.

No optimization on exam 😊

Unit 6: Annuities and Mortgages

Not on exam 😊

Unit 7: Budgeting

Not on exam 😊