	Greenwood College **Year 12 Applications** **Investigation 3 2019** **Finance - Saving for the Future**

Worth 5% of your year mark.

Choose a superannuation policy assuming that you have just started full time work. Show how much this will cost you for each of the first 3 years. Estimate how much you expect to receive when you retire.

A report is to be submitted. Your report should have the following main headings: Clarify; Choose; Use; Interpret; Communicate. Use the Greenwood College 5 stage mathematical problem-solving process when solving the problem and writing your report.

Your report is due by Friday the 30th of August 2019 (midnight). **It must be typed (no hand-written reports).** A hard copy can be given to either Mr Matkowski or Ms Hollis. It can also be emailed to ed.matkowski@education.wa.edu.au

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**Greenwood College
5 Stage Mathematical Problem
Solving Process**

The 5 stages for solving any mathematical problem is…

(1)   <u>Clarify</u> the problem.

(2)   <u>Choose</u> the maths to solve the problem.

(3)   <u>Use</u> the maths to solve the problem.

(4)   <u>Interpret</u> and check the solution to a problem.

(5)   <u>Communicate</u> an obtained result.

Now to look at each section in detail.

(1)   <u>Clarify</u> the problem.

What does it actually mean to <u>clarify</u> a problem?

It means asking questions like:

What do I know?... what information can I get from the wording of the problem?

What assumptions can I make about the context of the problem? Are these valid assumptions?

What am I being asked to find out?

What will I need to find out?

(2)   <u>Choose</u> the maths to solve the problem.

How do I find out the information I need with which to solve the problem?

What maths will I need?

How do I present my result?

What words will support my maths; will a whole pile of calculations or figures be useful – how should I organise these?

If more than one mathematical way can be used to solve this problem, which is going to be the most appropriate (In making this choice I know that I may have to reconsider once I complete the maths if my result doesn't make sense).

(3)   <u>Use</u> the maths to solve the problem.

The **using** part of the strategy will probably be less difficult for you to learn since this is what you probably always thought maths was about. In the past your teacher would have made the decisions about what maths to use and you carried out the task. Here you will carry out the task based on the decisions you have made about which maths to use. You will carry out calculations or organise information in a way that will help you make decisions as part of solving the problem.

(4)   <u>Interpret</u> and check the solution to a problem.

Interpreting the results you have obtained is a very important part of the problem solving process. Many students often think the problem is finished "once the maths has been done". Interpreting is really about looking objectively at the results obtained from the maths you have just carried out. Many students get very defensive of their work and find it hard to critically look at their answers. They like to think they are right because the work they have done "belongs to them".

Sometimes it is easier to do this if you either pretend it is somebody else's work or if you actually look at somebody else's work instead of your own.

You should ask questions such as:

What does all that I have done mean? So what?

Do my results seem reasonable? Why?

Is the maths I have done correct or have I made errors?

The maths I have chosen the best? Does it tell me what I want to know or will I have to go back and choose and use maths again? Why?

Are there any other factors that could have influenced my results? Are there factors that I didn't consider and should have?

(5)   <u>Communicate</u> an obtained result.

What is the best way of communicating my results in such a way that will make them easy to read and interpret? Should I use a letter, chart, oral presentation or some other format?

What did I set out to do?

How did I do it?

What results did I come up with?

Did I have to redo anything? Why?

What would I have done differently if I did it again?

What assumptions did I make in clarifying the problem? In hindsight, were these valid?