 Assessment Task – Holiday Time

Year 11 Mathematics Standard

This document references the [Mathematics Standard Stage 6 Syllabus](https://syllabus.nesa.nsw.edu.au/mathematics-standard-stage6/) © 2017 [NSW Education Standards Authority (NESA)](http://syllabus.nesa.nsw.edu.au/copyright/) for and on behalf of the Crown in right of the State of New South Wales.

Use your algebraic skills to design a holiday.

Assessment type: assignment or investigation style task

Stage 6

Due Date:

Outcomes

A student:

* MS11-1 Uses algebraic and graphical techniques to compare alternative solutions to contextual problems
* MS11-6 Makes predictions about everyday situations based on simple mathematical models
* MS11-9 Uses appropriate technology to investigate, organise and interpret information in a range of contexts
* MS11-10 Justifies a response to a given problem using appropriate mathematical terminology and/ or calculations

Learning across the curriculum

Cross-curriculum priorities

✓ Aboriginal and Torres Strait Islander histories and cultures

✓ Asia and Australia's engagement with Asia

☐ Sustainability

General capabilities

✓ Critical and creative thinking

☐ Ethical understanding

✓ Information and communication technology capability

✓ Intercultural understanding

✓ Literacy

✓ Numeracy

✓ Personal and social capability

Other areas of learning

☐ Civics and citizenship

☐ Difference and diversity

✓ Work and enterprise

Task

Students are to plan a holiday, based on a broad set of criteria as outlined below.

Section I: Budget

Assuming you have been in the workforce for less than three years, you are to choose an appropriate salary level. In two years’ time you would like to take a significant holiday. You have estimated you will be able to save 25% of your gross salary and you already have $1000 saved.

Calculate your estimated total savings at the end of the two year period. This is the amount of money you have available to spend on your holiday.

| Salary |  |
| --- | --- |
| Holiday savings |  |

Section II: Brainstorming your holiday

You need to make some decisions about your holiday. There are a number of factors to consider. Note these will not all apply to your holiday. Factors to consider include:

* Holiday destination – you can travel within Australia or overseas
* Length of holiday – maximum duration of four weeks
* Mode of initial transport – how are you getting there?
* Initial costs – these can include but are not limited to transport costs, passport and vaccination requirements, hire/purchase of vehicle, kennel costs for pets whilst you are away, and so on.
* Other costs – you are advised to work out a reasonable daily cost estimate for food, accommodation, transport, tourist activities, and so forth.
* Other considerations:
  + Those travelling overseas will need to look at the currency rate conversion.
  + Those using a car need to consider distances travelled and cost of petrol.

Section III: Detailed planning and document preparation

The purpose of this section is to create a detailed holiday plan document. The document should include the following:

* Outline of the proposed holiday
* Table (or other presentation form) showing itemised initial costs and total initial costs
* Table (or other presentation form) showing daily and total holiday costs
* Justification for total expenditure based on savings
* Some ideas that came out of the brainstorming session
* A graph showing the growth of your savings over the two year period
* At least one graph that shows change in cost over time

Optional information to include:

* Currency conversion graph
* Detailed transport costs, including graphical presentation of petrol usage
* Graphical comparison of different holiday scenarios. For example, consider the option of shortening your holiday and choosing to spend more on the cost of accommodation

(Some example graphs and tables can be added to assist students.)

Your final document should be aesthetically pleasing. Your graphs can be drawn by hand or you can use an application to produce them.

Class time will be provided to work on Section III, to enable assistance to be given for analysis and presentation of data.

Marking guidelines/rubric

| Sections | Score 1 to 4 | Score 5 to 8 | Score 9 to 12 | Score 13 to 16 | Score 17 to 20 |
| --- | --- | --- | --- | --- | --- |
| Section I: Algebraic skills  Score out of 25 | Mathematical calculations are incorrect. | Some mathematical calculations are incorrect. | Mathematical calculations are mostly correct. | Insignificant errors in mathematical calculations. | Mathematical calculations are correct. |
| Section II: Researching and presenting data  Score out of 15 | Minimal holiday costs considered.  Minimal participation in brainstorming sessions. | Consideration of some holiday costs.  Some participation in brainstorming sessions. | Consideration of several holiday costs.  Participated in most brainstorming sessions. | Detailed consideration of holiday costs.  Participated in all brainstorming sessions. | Very detailed consideration of holiday costs.  Active and productive participation in brainstorming sessions. |
| Section III:  Score out of 40 | Minimal evidence of consideration of brainstorming ideas. | Some evidence of consideration of brainstorming ideas. | Significant evidence of consideration of brainstorming ideas. | Brainstorming ideas were well considered and incorporated but not well justified. | Brainstorming ideas were well considered and incorporated where appropriate with justification. |

Total:

Teacher’s comments: