

PICTON HIGH SCHOOL

Creating Opportunities Achieving Success



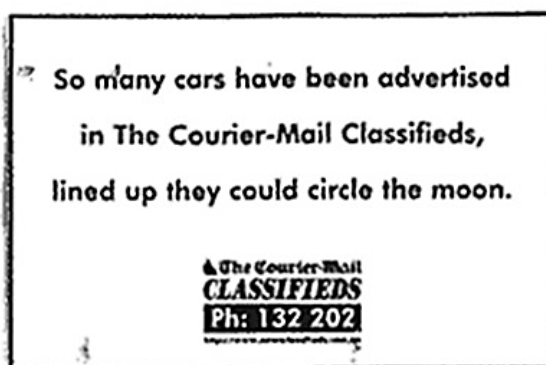
Year 11 Numeracy Assessment Task 1 2024

Due Date: Term 1 Week 9 Digital Submission on CANVAS (9:00am Wednesday 27 th March)	Assessment Name: Research Task Cars around the moon
Mark: Graded	Weighting: 25%

TASK DESCRIPTION:

You will complete a research task on Cars around the moon.

In this task you will evaluate the advertising claim:



1. Answer Questions 1 to 10 which appear on page 3.
 - Show all of your calculations.
 - Explain your reasoning, including references to any websites you access.
2. Submit your work as a digital file on CANVAS.

Approximately two hours of independent preparation in addition to class time will be required to develop a response.

SYLLABUS OUTCOMES TO BE ASSESSED:

A student:

N6-1.2: applies numerical reasoning and mathematical thinking to clarify, efficiently solve and communicate solutions to problems.

N6-1.3: determines whether an estimate or an answer is reasonable in the context of a problem, evaluates results and communicates conclusions

N6-2.2: chooses and applies efficient strategies to analyse and solve everyday problems involving metric relationships, distance and length, area, volume, time, mass, capacity and temperature

N6-3.1: chooses and uses appropriate technology to access, organise and interpret information in a range of practical personal and community, workplace and employment, and training contexts

DIRECTIVES TO BE ASSESSED:

Apply:	To use relevant information and skills for a given situation.
Calculate:	To find a mathematical solution for a question, and carry out the process.
Determine:	To establish exactly by research or calculation.
Interpret:	To draw meaning from a mathematical situation.
Solve:	To manipulate something for a particular purpose to find the answer for mathematical problems.
Use:	To manipulate something for a particular purpose to solve mathematical problems.

Cars around the moon

1. What is the approximate distance around the moon? How did you get this distance?
2. Choose a car and provide a picture of your car with its dimensions. You may find it useful to visit the [car comparison](#) website.
3. Calculate how many of your preferred car would be needed to circle the moon if they were lined up end to end.
4. Research the cost of your preferred car from three different dealers and include evidence of your research in your report.
 - a. Use this information to determine the average cost of your preferred car.
 - b. How much would it cost to circle the moon with the preferred cars lined up end to end?
5. The advertisement claim would have been based on many different cars.
 - a. How could you determine the average length of an Australian car?
 - b. Implement your plan to find the average length of an Australian car.
6. Calculate the number of average Australian cars that, lined up end to end, would circle the moon.
7. Calculate how much it would cost to circle the moon with average Australian cars.
8. Find the difference in the number of your preferred cars and the number of average Australian cars that, lined up end to end, would circle the moon.
9. If the cars had been lined up side by side, comment on how your answer to Question 8 could have changed. Why? No calculations are required.
10. Based on your answers to Questions 1 to 8, comment on whether you believe the advertising claim is reasonable, an exaggeration or an underestimation.

End of assessment task

Grading guidelines

Outcome	Aspiring	Achieving	Emerging
N6-1.2: applies numerical reasoning and mathematical thinking to clarify, efficiently solve and communicate solutions to problems	The response reveals clear understanding of the situation and appropriate choices have been made to solve the situation efficiently.	The response reveals sound understanding of the situation and appropriate choices have been made to present a reasonable solution.	The response reveals elementary understanding of the situation and some choices have been made to present a basic solution.
N6-1.3: determines whether an estimate or an answer is reasonable in the context of a problem, evaluates results and communicates conclusions	The student's conclusions are justified by reasonable estimations and results are communicated clearly.	The student's conclusions are justified by estimations and results are communicated.	The student's conclusions are justified by some estimations. There has been an attempt to communicate results.
N6-2.2: chooses and applies efficient strategies to analyse and solve everyday problems involving metric relationships, distance and length, area, volume, time, mass, capacity and temperature	The response demonstrates highly competent skills and processes in measurement and cost calculations.	The response demonstrates adequate skills and processes in measurement and cost calculations.	The response demonstrates elementary skills and processes in measurement and cost calculations.
N6-3.1: chooses and uses appropriate technology to access, organise and interpret information in a range of practical personal and community, workplace and employment, and education and training contexts	There is evidence that the student has made effective use of technology.	There is evidence that the student has made sound use of technology.	There is evidence that the student has made some use of technology.