Pendle Hill High School
Responsibilities Respect Rights Learning

Pendle Hill High School

Assessment Task Cover Sheet

Faculty/Subject:	Preliminary Mathematics Standard	**Assessment Task No:**	1
Year:	2020	**Assessment weighting:**	30%
Date Given:	28th of February	**Due date and time:**	Friday 13th of March Period 4
Student name:		**Teacher:**	Doran

Submission Instructions

- The task must be completed by the due date. Hard copies must be handed to your regular classroom teacher during school hours and signed for.
- Email submissions must be sent to the following email account:
- Assignments received after **3:15pm** on the due date will be classed as a late submission, unless an alternate time is stated on the assessment cover sheet.
- Students must attend school and all scheduled classes on the due date of the assessment. See assessment handbook for details.

Absence/Late Submission

Late submission:

- For students in Years 11 and 12, the penalty is zero for work submitted after the due date and time. An immediate N award warning letter will be mailed to parents.
- For students in Years 7, 8, 9 and 10 the penalty is 20% of total mark per day (not marks scored). The penalty includes weekend and public holidays. This will result in an N award warning letter being mailed to parents for Year 9 and 10 students.

Absence:

- **Year 11 -12** - you are required to complete and submit to the front office an **Assessment Appeal form** within 48 hours of returning to school.
- **Year 7 -10 -** if you are absent from school on the day the task is to be completed, you are required on your return to school to provide a medical certificate or other documentation to the front office and your class teacher.
- Failure to provide adequate documentation will result in late submission penalties being applied.

Student Confirmation - please tick

□ This is all my own work. I have referenced any work used from other sources and have not plagiarised the work of others. I understand that plagiarised work will receive zero marks and an N award warning letter.

□ I have attached a complete bibliography - where appropriate.

□ I have kept a copy of my assignment.

Student Signature: _____

- -

Assessment Task Receipt

Students are to complete before handing in. Teacher signs the receipt that must be kept by the student.

Student Name:_____ Subject: _____

Task No : _____ Due Date:____/____/____ Date submitted:____/____/____

Student Signature:_____Teacher Signature: _____

2020 Preliminary Mathematics Standard
Assessment Task NO. 1
Assessment Type: One Period in class Topic Test
Including multiple choice and free response questions

TOPICS to be ASSESSED
Revision
- Four operations with algebra
- Index laws
- Pythagoras' Theorem
- Measures of Central tendency (Mode, Mean, Median)
- Frequency Distribution tables and analysis

MS-A1 Formulae and Equations

- review substitution of numerical values into linear and non-linear algebraic expressions and equations
  - review evaluating the subject of a formula, given the value of other pronumerals in the formula
  - change the subject of a linear formula
  - solve problems involving formulae, including but not limited to calculating distance, speed and time (with change of units of measurement as required) or calculating stopping distances of vehicles using a suitable formula

- develop and solve linear equations, including but not limited to those derived from substituting values into a formula, or those developed from a word description

calculate and interpret blood alcohol content (BAC) based on drink consumption and body weight

- use formulae, both in word form and algebraic form, to calculate an estimate for blood alcohol content (BAC), including $BAC_{Male} = \dfrac{10N - 7.5H}{6.8M}$ and $BAC_{Female} = \dfrac{10N - 7.5H}{5.5M}$ where N is the number of standard drinks consumed, H is the number of hours of drinking, and M is the person's weight in kilograms
- determine the number of hours required for a person to stop consuming alcohol in order to reach zero BAC, eg using the formula $time = \dfrac{BAC}{0.015}$
- describe limitations of methods estimating BAC

calculate required medication dosages for children and adults from packets, given age or weight, using Fried's, Young's or Clark's formula as appropriate

- Fried's formula:
  $$Dosage\ for\ children\ 1-2\ years = \frac{age\ (in\ months)\ \times\ adult\ dosage}{150}$$
- Young's formula:
  $$Dosage\ for\ children\ 1-12\ years = \frac{age\ of\ child\ (in\ years)\ \times\ adult\ dosage}{age\ of\ child\ (in\ years)\ +\ 12}$$
- Clark's formula: $Dosage = \dfrac{weight\ in\ kg\ \times\ adult\ dosage}{70}$

MS-S2 Relative Frequency and Probability

- review, understand and use the language associated with theoretical probability and relative frequency
- construct a sample space for an experiment and use it to determine the number of outcomes (ACMEM154)
- review probability as a measure of the 'likely chance of occurrence' of an event (ACMMM052)

review the probability scale: $0 \leq P(A) \leq 1$ for each event A, with $P(A) = 0$ if A is an impossibility and $P(A) = 1$ if A is a certainty (ACMMM053)

determine the probabilities associated with simple games and experiments ◊

- use the following definition of probability of an event where outcomes are equally likely:
  $$P\left(event\right) = \frac{number\ of\ favourable\ outcomes}{total\ number\ of\ outcomes}$$
- calculate the probability of the complement of an event using the relationship
  $$P(an\ event\ does\ not\ occur) = 1 - P(the\ event\ does\ occur) = P(the\ event\ \overline{does}\ occur) = P(event^c)$$
- use arrays and tree diagrams to determine the outcomes and probabilities for multi events and use tree diagrams to establish the outcomes for a simple multistage event
- use probability tree diagrams to solve problems involving two-stage events

- solve problems involving simulations or trials of experiments in a variety of contexts
- perform simulations of experiments using technology
  - use relative frequency as an estimate of probability
  - recognise that an increasing number of trials produces relative frequencies that gradually become closer in value to the theoretical probability
  - identify factors that could complicate the simulation of real-world events

solve problems involving probability and/or relative frequency in a variety of contexts

- use existing known probabilities, or estimates based on relative frequencies to calculate expected frequency for a given sample or population, eg predicting, by calculation, the number of people of each blood type in a population given the percentage breakdowns
- calculate the expected frequency of an event occurring using np where n represents the number of times an experiment is repeated, and on each of those times the probability that the event occurs is p