



Chester Hill High School

Strength in Unity, Excellence in Education

Assessment Task

Course:	Mathematics	Year:	8
Topics:	Fractions, Decimals and Percentages, Financial Mathematics		
Assessment Name:	Designing a Garden Assignment		
DATE DUE:	Term 1 Week 9 Class Due Date:	Total Mark	
STUDENT NAME:			
Progress Check FEEDBACK	<input type="checkbox"/> Completed the garden design (Task 1 Question 1) <input type="checkbox"/> Completed research table (Task 2 Question 1)		
Progress Check Date:	Term 1 Week 8 Class Due Date:	Marks	

I certify that

- This assignment is my own work, based on my personal study and/or research.
- I have **acknowledged all material and sources used in the preparation** of this assignment in a **reference list**.
- Submitted assignments based on group work are not the same as other students' work.
- I have not plagiarised (copied) in part, or in whole the work of other students.
- I have read and I understand the success criteria used for this assessment
- **I have kept a copy of my assignment and the receipt.**
- I understand that a copy of my assignment may be kept and used to make comparisons with other assignments in the future.

Student's Signature: Date:

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Assessment Task Student Receipt

(This receipt should be kept as proof of assessment submission)

FAMILY NAME:	GIVEN NAME:
TEACHER:	CLASS:
DATE DUE:	DATE SUBMITTED:
TITLE OF TASK: Year 8 Designing a Garden Assignment	TEACHER'S SIGNATURE:

Task Information

Important idea(s) being explored:	Using fractions, decimals, percentages and financial mathematics in practical situations
Task Requirements:	Complete Tasks 1 and 2 in the spaces provided. Show working where necessary. Complete “ Feedback from student about task ” section below.
Syllabus Outcomes:	<ul style="list-style-type: none">› MA4-1WM: communicates and connects mathematical ideas using appropriate terminology, diagrams and symbols› MA4-2WM: applies appropriate mathematical techniques to solve problems› MA4-3WM: recognises and explains mathematical relationships using reasoning› MA4 5NA: operates with fractions, decimals and percentages› MA4-6NA: solves financial problems involving purchasing goods

Feedback from student about task:

I spent _____ hours working on this task.

The hardest part of this task was

The easiest was

What I have enjoyed most about learning in *Mathematics* is

Learning in *Mathematics* could be improved if:

Dear teacher, I need help in the following areas:

Success Criteria

Outcome	E	D	C	B	A
Task 1: Designing a Garden Question 1	Designs a garden that meets zero to one of the given criteria.	Designs a garden that meets two to three of the given criteria.	Designs a garden that meets at least half of the given criteria.	Designs a garden that meets at least six of the seven criteria and is organised in even rows.	
Question 2 – 10	Correctly answers simple questions Q2, 3, 4	Correctly answers simple questions and Q 5, 6	Correctly answers basic questions and Q7, 8	Correctly answers sound questions and Q9	Correctly answers all questions 2-10
Task 2: Financial Mathematics Question 1	Completes the table with one or two appropriate choices and/or prices	Completes the table with three appropriate choices with full descriptions and prices	Completes the table with all appropriate choices with full descriptions and prices		
Question 2-10	Correctly answers simple questions Q2, 3, 4	Correctly answers simple questions and Q 5, 6	Correctly answers basic questions and Q7, 9	Correctly answers sound questions and Q8, 10	Correctly answers all questions 2-11

FEEDBACK from Teacher:

Work is neat and well-presented.

Completion of assessment during allocated class time: Excellent Moderate Limited

Teacher Signature	Mark

Year 8 Grading Sheet for Reference

	E	D	C	B	A
Fractions, Decimals and Percentages MA4-5NA operates with fractions, decimals and percentages	Represent common percentages as fractions and decimals. Calculates percentages with 10%, 25% or 50%.	Convert between simple decimals, fractions and percentages and calculate percentages of quantities with digital technologies.	Express one quantity as a percentage of another. Increase or decrease a quantity by a given percentage. Calculate percentages greater than 100%. Convert between any fraction, decimal or percentage.	Recognise equivalence when calculating percentage increase or decrease. e.g. $x \times 1.05 =$ increase of 5%. Find the percentage increase or decrease of a quantity. Use the unitary method to solve simple problems. Apply appropriate strategies to solve real-life problems involving percentages.	Apply appropriate strategies to solve unfamiliar problems involving fractions, decimals and percentages. Use the unitary method to solve any problem involving fractions, decimals or percentages.
Financial Mathematics MA4-6NA solves financial problems involving purchasing goods	Calculate 10% GST.	Calculate GST-inclusive price given pre-GST price. Solve simple discount problems.	Determine the pre-GST price for goods given the GST-inclusive price. Solve more complex discount problems involving comparisons of special offers.	Calculate best buys by comparing prices per unit. Apply strategies to calculate percentage discount, profit or loss.	Solve complex best buys problems using various techniques and recognises that in practical situations there are considerations other than just the 'best buy'.

YEAR 8 MATHEMATICS

Task 1: Designing a Garden

Chester Hill High School needs your help to design a new vegetable garden!

1. The following are the types of vegetables that will be planted in the garden.
- Tomatoes (T)
 - Lettuce (L)
 - Carrot (C)
 - Pumpkin (P)
 - Beans (B)

Use the letters above to design a small vegetable garden. Your garden must satisfy the following conditions:

- There must be 30 vegetables.
- There must be at least one of each type in the garden.
- 10% of the plants should be lettuce.
- At least 20% of the garden should be pumpkins.
- There should be more tomatoes than beans.
- Less than two-fifths ($\frac{2}{5}$) of the vegetables should be carrots.
- The vegetables should be planted in five rows. Each row should have the same number of vegetables.

SAMPLE

B	P	T	T
C	T	C	C
L	L	L	P
C	P	B	B

Draw your garden in the following box:

This sample does not answer the question.

Use your garden to answer the following questions:

2. 10% of the garden is lettuce. What is this percentage as a

(a) fraction?

(b) decimal?

3. Which vegetables, when added up, will give more than half of the total number of vegetables?

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4. What fraction of the vegetables in your garden are tomatoes? Simplify if possible.

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5. What percentage of your vegetables are beans?

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6. Convert your percentage of beans (question 5) to a decimal.

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7. Over a few very hot days, all your tomato plants withered and died. The other vegetables survived. What percentage of vegetables survived? Show working out.

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8. The school likes your garden so much that they want to make it bigger. They want to increase the number of vegetables by 60%. How many vegetables will the **new garden** have? Show working out.

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9. The **new garden** (from question 8) is attacked by bugs. The number of vegetables in the garden is reduced by 22%. What *single decimal* could you multiply the number of vegetables by to find how many are left?

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10. The SRC is going to contribute \$195 to help set up the vegetable garden, which is 65% of the total costs. How much will the garden cost in total? You must show full working out.

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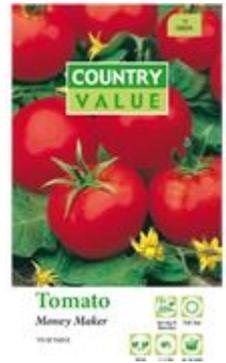
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Task 2: Financial Mathematics

Now consider the costs related to planting the vegetable garden.

- Use the website www.bunnings.com.au to collect the prices of seeds for the vegetables you will plant in the garden. Use the SEARCH bar to find the cost of the different seeds you need.

There will be a variety of choices for each vegetable type. Choose one product you would like to buy and complete the table with the full details of the brand, type and price of each vegetable.



Vegetable	Product Details	Price/packet
Tomato seeds		
Lettuce seeds		
Carrot seeds		
Pumpkin seeds		
Bean seeds		

- The prices of the vegetables seeds include GST. Name **three** other items that you must pay GST on.

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- What *percentage* is GST?

- Calculate the GST of a shovel that cost \$32 before GST.

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- You also need some garden soil that will cost \$7.90 *pre-GST*. Find the price of the soil including GST.

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6. Calculate the total cost of the seeds that you have chosen to buy.

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7. If the total cost of the seeds you have chosen includes GST, what is the price of the seeds before GST? Show working out.

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8. Bunnings makes a 35% profit on all of the seeds they sell. Calculate the total *cost price* of all the seeds you have chosen. Show working out. (Note: Ignore GST and use the prices you found on their website)

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9. There is a sale for watering cans. You can buy one for \$2.90 or two for \$5.50. Which is the better purchase? Show all your working to justify your answer.

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10. Use www.bunnings.com.au to find the prices of the following mulch:

Hortico
30L Water Saving Mulch



Pinegro
70L Pine Bark Mulch



Brunnings
90L Feed and Mulch Coir
Mulch Block



Price:

Price:

Price:

List the mulch in order of best value to worse value. Justify your answer with working out.

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11. Bunnings is having a special on seeds for lettuce. You can buy three packets of seeds and get two packets for free. Name one reason why you might **not** purchase this deal for your garden.

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