



## Year 7 Mathematics Assessment Task 3 Term 3 2023

<b>TOPICS:</b> Fractions, Decimals and Percentages	<b>MARKS:</b>  <b>TOTAL -</b> /37
<b>SUBMISSION REQUIREMENTS:</b> Term 3 – Week 7 - To be submitted in class on <b><u>TUESDAY 29<sup>th</sup> AUGUST, 2023</u></b> 7MATG – Period 3 7MATB – Period 3 7MATC – Period 1 7MATM – Period 3 7MATN – Period 1 7MATW – Period 4 7MATY – Period 4	
<b>OUTCOMES TO BE ASSESSED:</b> <b>MA4-1WM – communicates</b> and <b>connects</b> mathematical ideas using appropriate terminology, diagrams and symbols <b>MA4-2WM – applies</b> appropriate mathematical techniques to solve problems <b>MA4-5NA – operates</b> with fractions, decimals and percentages	
<b>DIRECTIONAL VERBS:</b> <b>Apply</b> – Use, utilise, employ in a particular situation <b>Communicates</b> – Explains, <b>connects</b> , relates cause and effect; make the relationships between things evident; provide why and/or how using appropriate terminology, diagram and/or symbols <b>Operates</b> – a process in which a number, quantity, expression etc. is altered or manipulated according to a set of rules such as addition, subtraction, multiplication and division. <b>Solve</b> – Ascertain, calculate evaluate, determine from given facts, figures or	
<b>TASK DESCRIPTION:</b> In this task you will be demonstrating your skills in working with fractions, decimals and percentages by designing a vegetable garden and analysing its content.  This task is to be completed individually and at home. You can use your calculator. You will be given time in class to assist you in completing this section where an exemplar will be modelled for you. <b>If you are absent on the day, it is your responsibility to seek assistance from your teacher outside of class time.</b> You are encouraged to read the task description for this section carefully and follow the scaffold provided. Ensure that you have thoroughly checked all your working out for any errors and compared your work against the <b>Assessment Marking Criteria</b> prior to the submission date.	

This entire booklet needs to be submitted on  
**TUESDAY 29<sup>th</sup> AUGUST, 2023**

Student Name: \_\_\_\_\_

Class/Teacher: \_\_\_\_\_

## Section 1 – Design a Vegetable Garden

In this section Camden High School needs your help designing a vegetable garden. You will need to use your knowledge of fractions, decimals and percentages to help you complete this design.

The following types of vegetables will be planted in the garden:

- Tomatoes (T)
- Lettuce (L)
- Carrots (C)
- Pumpkin (P)
- Beans (B)
- Zucchini (Z)
- Eggplant (E)
- Onions (O)

To complete this section successfully you will use the letters above to design your vegetable garden. However, your garden must satisfy the following conditions:

- ☐ There must be 40 vegetable exactly in 8 rows (each row should have same number of vegetables)
- ☐ Use the letters provided to complete the garden
- ☐ There should be at least one type of each vegetable in the garden
- ☐ There should be 5 lots of Carrots (C) planted
- ☐ 20% of vegetables should be Lettuce (L)
- ☐  $\frac{1}{8}$  of the vegetables should be Onions (O)
- ☐ At least 0.1 of vegetables should be Pumpkin (P)
- ☐ You need to have more Zucchini (Z) planted than Beans (B)
- ☐ You need to have more Tomatoes (T) planted than Eggplant (E)

Once you have completed your garden, you will then need to answer a series of questions all about your garden design.

**EXAMPLE – Note: This does not answer the question.**

C	C	Z	Z	E
C	C	Z	Z	E
Z	Z	Z	Z	T
E	E	E	E	T
T	T	T	T	O
O	O	O	B	B
B	B	B	P	P

## Section 1 – Design a Vegetable Garden

1. Design your garden according to the conditions given on page 3 **(9 marks)**:


2. Use your garden design to complete the table below - some sections have been completed for you. **(7 marks)**:

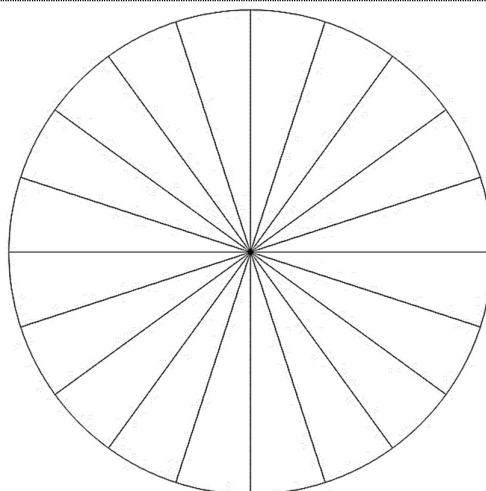
<b>Vegetable</b>	<b>Fraction</b> <i>Simplified</i>	<b>Decimal</b> <i>Round to 2.d.p if necessary</i>	<b>Percentage</b> <i>Round to 2.d.p if necessary</i>
<b>Tomatoes (T)</b>			
<b>Lettuce (L)</b>			<b>20%</b>
<b>Carrots (C)</b>			
<b>Pumpkin (P)</b>		<b>0.1</b>	
<b>Beans (B)</b>			
<b>Zucchini (Z)</b>			
<b>Eggplant (E)</b>			
<b>Onion (O)</b>	$\frac{1}{8}$		

## Section 1 – Designing a Vegetable Garden

3. Each type of vegetable will need to be purchased by the school. The costs of the vegetables are given in the table below. Using this information, calculate the total cost of buying each of the vegetables for your design. **(9 marks)**:

Vegetable	Price (\$)	Quantity	Cost (\$) <i>Round to 2.d.p if necessary</i>
Tomatoes (T)	\$6.85		
Lettuce (L)	\$5.65		
Carrots (C)	\$4.39		
Pumpkin (P)	\$3.89		
Beans (B)	\$4.85		
Zucchini (Z)	\$4.45		
Eggplant (E)	\$4.69		
Onion (O)	\$3.99		
		<b>TOTAL =</b>	

4. Visually represent the number of onions in your garden using the diagram given below. Show all working out. Hint – use equivalent fractions. **(2 marks)**



5. Place the different vegetables from your garden into **ascending order** (from smallest to largest) using decimals. **(2 marks)**

---

---

---

6. Which combinations of vegetables when added up, will give you more than half the total number of vegetables? Show all working out. **(2 marks)**

---

---

---

7. Over a few very hot days, all your tomato plants withered and died. All of your other vegetables survived. What fraction of vegetables survived? Show all working out. **(2 marks)**

---

---

---

8. The school likes your original garden design so much that they want to make it bigger. They would like to increase the number of pumpkins by 50%. How many vegetables will the new garden have altogether now? Show all working out. **(2 marks)**

---

---

---

9. The garden (from question 8) is attacked by bugs! The number of lettuces in your garden is reduced by 25%. How many vegetables will the garden now have altogether? Show all working out. **(2 marks)**

---

---

---

## Section 1 – Designing a Garden

Section 1 – Designing your Garden (37 marks)	0	1	2	3	4	5	6	7	8	9
1.Design your garden according to the conditions given on page 3 (9 marks)	Not attempted OR Garden designed meets <b>no</b> conditions	Garden design meets <b>one</b> of the conditions	Garden design meets <b>two</b> of the conditions	Garden design meets <b>three</b> of the conditions	Garden design meets <b>four</b> of the conditions	Garden design meets <b>five</b> of the conditions	Garden design meets <b>six</b> of the conditions	Garden design meets <b>seven</b> of the conditions	Garden design meets <b>eight</b> of the conditions	Garden design meets <b>all/nine</b> of the conditions
2. Use your garden design to complete the table below - some sections have been completed for you (7 marks)	Not attempted OR All conversion incorrect	Up to <b>three</b> conversion correctly completed	Up to <b>six</b> conversion correctly completed	Up to <b>nine</b> conversion correctly completed	Up to <b>twelve</b> conversion correctly completed	Up to <b>fifteen</b> conversion correctly completed	Up to <b>eighteen</b> conversion correctly completed	Up to <b>twenty-one</b> conversion correctly completed		
3.Each type of vegetable will need to be purchased by the school. The costs of the vegetables are given in the table below. Using this information, calculate the total cost of buying each of the vegetables for your design. (9 marks):	Not attempted OR All costs and total calculated is incorrect	<b>One</b> cost correctly calculated missing /incorrect total OR Total correctly calculated	<b>Two</b> costs correctly calculated missing /incorrect OR <b>One</b> cost and the total correctly calculated	<b>Three</b> costs correctly calculated missing /incorrect OR <b>Two</b> cost and the total correctly calculated	<b>Four</b> costs correctly calculated missing /incorrect OR <b>Three</b> cost and the total correctly calculated	<b>Five</b> costs correctly calculated missing /incorrect OR <b>Four</b> cost and the total correctly calculated	<b>Six</b> costs correctly calculated missing /incorrect OR <b>Five</b> cost and the total correctly calculated	<b>Seven</b> costs correctly calculated missing /incorrect OR <b>Six</b> cost and the total correctly calculated	<b>Eight</b> costs correctly calculated missing /incorrect OR <b>Seven</b> cost and the total correctly calculated	All costs correctly calculated <b>AND</b> Total correctly calculated

### ASSESSMENT MARKING CRITERIA:

## Section 1 – Designing a Garden continued...

Section 1 – Designing your Garden (37 marks)	0	1	2
4. Visually represent the number of onions in your garden using the diagram given below. Show all working out. Hint – use equivalent fractions. (2 marks)	Not attempted OR Question answered incorrectly	Correct working to show equivalent fraction and incorrectly coloured diagram OR Correctly coloured diagram <b>without</b> working out	Correct equivalent fraction shown and correctly coloured diagram
5. Place the different vegetables from your garden into ascending order using decimals. (2 marks)	Not attempted OR Question answered incorrectly	Answered correctly in descending order OR Minor error	Correct solution in ascending order
6. Which combinations of vegetables when added up, will give you more than half the total number of vegetables? Show all working out. (2 marks)	Not attempted OR Question answered incorrectly	Steps shown towards correct solution OR Correct answer <b>without</b> working out	Correct solution <b>with</b> working out
7. Over a few very hot days, all your tomato plants withered and died. All of your other vegetables survived. What fraction of vegetables survived? Show all working out. (2 marks)	Not attempted OR Question answered incorrectly	Steps shown towards correct solution OR Correct answer <b>without</b> working out	Correct solution <b>with</b> working out
8. The school likes your garden so much that they want to make it bigger. They would like to increase the number of pumpkins by 50%. How many vegetables will the new garden have altogether now? Show all working out. (2 marks)	Not attempted OR Question answered incorrectly	Steps shown towards correct solution OR Correct answer <b>without</b> working out	Correct solution <b>with</b> working out
9. The garden (from question 8) are attacked by bugs! The number of lettuces in your garden is reduced by 25%. How many vegetables will the garden now have altogether? Show all working out. (2 marks)	Not attempted OR Question answered incorrectly	Steps shown towards correct solution OR Correct answer <b>without</b> working out	Correct solution <b>with</b> working out