

# MDM4U – Final Project: Problem [Research]

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

## Overall Topic

Overall Research Question:

Define 3 terms related to your research question:

| Term | Definition |
|------|------------|
|      |            |
|      |            |
|      |            |

Explain why your topic is important:

# Cluster 1:

Research Question for this cluster:

Circle the Box that applies:

| Cluster                           | Probability   | Venn Diagram  | Counting Principles   | 2 Variable   | 1 Variable (mean)   | 1 Variable (median)   | Distribution  |
|-----------------------------------|---|---|---|--|---|---|---|
| Description                       | <ul style="list-style-type: none"> <li>• Pie Chart</li> <li>• Histogram</li> <li>• Calculate Probability</li> </ul> | <ul style="list-style-type: none"> <li>• 2 or 3 Bubble Venn diagram</li> <li>• Conditional probability</li> </ul> | <ul style="list-style-type: none"> <li>• Permutations</li> <li>• Combinations</li> <li>• Counting Principles</li> </ul> | <ul style="list-style-type: none"> <li>• Scatterplot</li> <li>• Equation</li> <li>• <math>r, r^2</math></li> </ul> | <ul style="list-style-type: none"> <li>• Histogram created</li> <li>• St Deviation, Mean</li> </ul> | <ul style="list-style-type: none"> <li>• Box and Whisker</li> <li>• Median, Q1, Q3, Min, Max</li> </ul> | <ul style="list-style-type: none"> <li>• Heat Maps</li> <li>• Simulation</li> </ul> |
| 1. Finding Finished Graph on-line | Find bar graphs or pie charts. Find at least 5 probs. Note source. Choose RQ.                                       |   |   | Find scatterplot. Note source. Choose RQ.  | Find histogram. Note source. Choose RQ.   | Find box and whisker. Note source. Choose RQ.   |   |
| 2. Making Survey yourself         | Show which question will be used for pie chart. Choose RQ.  | Show which 3 questions will be used to make Venn. Choose RQ.  |   | Show which 2 questions will be used to make Scatterplot. Choose RQ.  | Show which question will be used to make histogram. Choose RQ.                                      | Show which question will be used to make box and whisker. Choose RQ.                                    |   |
| 3. Finding Dataset online         | Show which column will be used for pie chart. Choose RQ.  | Show which 3 columns will be used to make Venn. Choose RQ.  |   | Show which 2 columns will be used to make Scatterplot. Choose RQ.  | Show which column will be used to make histogram. Choose RQ.  | Show which column will be used to make box and whisker. Choose RQ.                                      |   |
| 4. Alternative System             |   |   | Figure out what you will calculate. Draw the boxes. Choose RQ.  |  |   |   | Figure out diagram. Make sketch. Choose RQ.   |

Other information required:

|                              |  |
|------------------------------|--|
| 1. Sketch graph              |  |
| 1. Note source               |  |
| 2. Survey Question(s) needed |  |
| 3. Columns on spreadsheet    |  |
| 3. Spreadsheet source        |  |
| Extra notes                  |  |

# Cluster 2:

Research Question for this cluster:

Circle the Box that applies:

| Cluster                           | Probability   | Venn Diagram  | Counting Principles   | 2 Variable   | 1 Variable (mean)   | 1 Variable (median)   | Distribution  |
|-----------------------------------|---|---|---|--|---|---|---|
| Description                       | <ul style="list-style-type: none"> <li>• Pie Chart</li> <li>• Histogram</li> <li>• Calculate Probability</li> </ul> | <ul style="list-style-type: none"> <li>• 2 or 3 Bubble Venn diagram</li> <li>• Conditional probability</li> </ul> | <ul style="list-style-type: none"> <li>• Permutations</li> <li>• Combinations</li> <li>• Counting Principles</li> </ul> | <ul style="list-style-type: none"> <li>• Scatterplot</li> <li>• Equation</li> <li>• <math>r, r^2</math></li> </ul> | <ul style="list-style-type: none"> <li>• Histogram created</li> <li>• St Deviation, Mean</li> </ul> | <ul style="list-style-type: none"> <li>• Box and Whisker</li> <li>• Median, Q1, Q3, Min, Max</li> </ul> | <ul style="list-style-type: none"> <li>• Heat Maps</li> <li>• Simulation</li> </ul> |
| 1. Finding Finished Graph on-line | Find bar graphs or pie charts. Find at least 5 probs. Note source. Choose RQ.                                       |   |   | Find scatterplot. Note source. Choose RQ.  | Find histogram. Note source. Choose RQ.   | Find box and whisker. Note source. Choose RQ.   |   |
| 2. Making Survey yourself         | Show which question will be used for pie chart. Choose RQ.  | Show which 3 questions will be used to make Venn. Choose RQ.  |   | Show which 2 questions will be used to make Scatterplot. Choose RQ.  | Show which question will be used to make histogram. Choose RQ.                                      | Show which question will be used to make box and whisker. Choose RQ.                                    |   |
| 3. Finding Dataset online         | Show which column will be used for pie chart. Choose RQ.  | Show which 3 columns will be used to make Venn. Choose RQ.  |   | Show which 2 columns will be used to make Scatterplot. Choose RQ.  | Show which column will be used to make histogram. Choose RQ.  | Show which column will be used to make box and whisker. Choose RQ.                                      |   |
| 4. Alternative System             |   |   | Figure out what you will calculate. Draw the boxes. Choose RQ.  |  |   |   | Figure out diagram. Make sketch. Choose RQ.   |

Other information required:

|                              |  |
|------------------------------|--|
| 1. Sketch graph              |  |
| 1. Note source               |  |
| 2. Survey Question(s) needed |  |
| 3. Columns on spreadsheet    |  |
| 3. Spreadsheet source        |  |
| Extra notes                  |  |

# Cluster 3:

Research Question for this cluster:

Circle the Box that applies:

| Cluster                           | Probability   | Venn Diagram  | Counting Principles   | 2 Variable   | 1 Variable (mean)   | 1 Variable (median)   | Distribution  |
|-----------------------------------|---|---|---|--|---|---|---|
| Description                       | <ul style="list-style-type: none"> <li>• Pie Chart</li> <li>• Histogram</li> <li>• Calculate Probability</li> </ul> | <ul style="list-style-type: none"> <li>• 2 or 3 Bubble Venn diagram</li> <li>• Conditional probability</li> </ul> | <ul style="list-style-type: none"> <li>• Permutations</li> <li>• Combinations</li> <li>• Counting Principles</li> </ul> | <ul style="list-style-type: none"> <li>• Scatterplot</li> <li>• Equation</li> <li>• <math>r, r^2</math></li> </ul> | <ul style="list-style-type: none"> <li>• Histogram created</li> <li>• St Deviation, Mean</li> </ul> | <ul style="list-style-type: none"> <li>• Box and Whisker</li> <li>• Median, Q1, Q3, Min, Max</li> </ul> | <ul style="list-style-type: none"> <li>• Heat Maps</li> <li>• Simulation</li> </ul> |
| 1. Finding Finished Graph on-line | Find bar graphs or pie charts. Find at least 5 probs. Note source. Choose RQ.                                       |   |   | Find scatterplot. Note source. Choose RQ.  | Find histogram. Note source. Choose RQ.   | Find box and whisker. Note source. Choose RQ.   |   |
| 2. Making Survey yourself         | Show which question will be used for pie chart. Choose RQ.  | Show which 3 questions will be used to make Venn. Choose RQ.  |   | Show which 2 questions will be used to make Scatterplot. Choose RQ.  | Show which question will be used to make histogram. Choose RQ.                                      | Show which question will be used to make box and whisker. Choose RQ.                                    |   |
| 3. Finding Dataset online         | Show which column will be used for pie chart. Choose RQ.  | Show which 3 columns will be used to make Venn. Choose RQ.  |   | Show which 2 columns will be used to make Scatterplot. Choose RQ.  | Show which column will be used to make histogram. Choose RQ.  | Show which column will be used to make box and whisker. Choose RQ.                                      |   |
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Other information required:

|                              |  |
|------------------------------|--|
| 1. Sketch graph              |  |
| 1. Note source               |  |
| 2. Survey Question(s) needed |  |
| 3. Columns on spreadsheet    |  |
| 3. Spreadsheet source        |  |
| Extra notes                  |  |