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| Task Number | 3 | Task Name | Scale Drawings – Dream House |
| Course | Year 12 Mathematics Standard 1 | Faculty | Mathematics |
| Teacher | Mr Whitehall | Head Teacher | Ms Humphries |
| Issue date | Tuesday (28.5.24) Week 5 | Due date | Monday (24.6.24) Week 9 |
| Focus (Topic) | MS-M5 Scale Drawings | Task Weighting | 20% |

Outcomes

- interprets the results of measurements and calculations and makes judgements about their reasonableness MS1-12-3
- analyses simple two-dimensional and three-dimensional models to solve practical problems MS1-12-4
- uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

Task description

Students will complete the Dream House task both in class and at home. In order to gain an outstanding achievement level for this task, you must fully complete all 5 steps. Therefore, **you must take full advantage of time spent in class as well as spend additional time at home if required.** You should start with basic sketches and then move on to accurate diagrams drawn using a ruler. If you are absent from class please contact your teacher to catch up on the work for that lesson.

Name:

Marking Guidelines

| Task | Criteria | Marks |
|---------------|---|------------|
| Step 1 | <p>Birds Eye Sketch</p> <p>The birds' eye view of the house clearly shows what will be on the property – including all outdoor features. (4)</p> <p>An appropriate scale was chosen and written next to the diagram. (1)</p> <p>Diagram is to scale. (1)</p> <p>Perimeter of the house meets criteria. (1)</p> <p>Land size is correct. (1)</p> <p>Council restrictions are adhered to. (1)</p> | /9 |
| Step 2 | <p>House Plan</p> <p>Correct number of bedrooms and bathrooms are included in the design. (2)</p> <p>The floor plan includes all necessary rooms for a house and is in the correct floor plan format. (5)</p> <p>Scale is appropriate. (1)</p> <p>Floor plan is to scale. (1)</p> <p>All wall measurements are clearly labelled and realistic. (2)</p> <p>All fixtures (e.g. toilet) are labelled and symbols are clearly explained. (7)</p> | /18 |
| Step 3 | <p>The Final Look</p> <p>3 marks per elevation (must include measurements and match floor plan). (12)</p> <p>Brick work for the front view only is shown. (2)</p> <p>Bathroom tile design is unique and has a repeating pattern. (3)</p> | /17 |
| Step 4 | <p>The Details</p> <p>2 marks for each question (1 for working, 1 for answer).</p> <ol style="list-style-type: none"> 1. What is the size of each bedroom? (2) 2. How much carpet will you need for each of your bedrooms in total? (2) 3. What are the dimensions of your bathrooms? Remember length, width, <i>and</i> height. (2) 4. How many tiles will you need for your bathroom walls? (2) 5. How much fencing will YOUR house require? (2) 6. What is the size of your house in square metres? (2) | /12 |
| Step 5 | <p>Features</p> <p>Features are described and match floor plan, elevations, or birds' eye view. Language used is persuasive.</p> | /5 |
| Total | | /61 |



Name:

DREAM HOUSE

Mathematics Standard 1

TERM 2 - 2023 ASSESSMENT TASK

Design your Dream House Assignment **Completed**

- Step 1: Birds Eye Sketch
- Step 2: House Plan
- Step 3: The final Look
- Step 4: The Details
- Step 5: Features

Introduction

You need to design your own dream house, create a plan that shows what the house would look like and thoroughly describe each unique design feature as though you are promoting the house for sale.

The house you are building is to fit on a piece of **land 30 m by 20 m**. Council restrictions are that any buildings on the property must be **2 m from any boundary**.

Your house must **not** have a perimeter of more than 60 m. Remember that the perimeter does not have to be rectangular or square.

The house must have two bathrooms and three bedrooms. You will determine how much carpet will be needed in the three bedrooms. You will also need to calculate how much fencing will be needed to go around your yard so that your dog doesn't get away while you're at school. Your house can be either single storey or multi-storey.

Follow the steps below to complete your project. Have a look at advertisements from real estate agents for ideas on designs and features to include. Use the measurements from your own house as a guide!

Step 1: Sketch

Draw a sketch (bird's eye view) of your property (to scale). Think about whether your house will have a garden, swimming pool or any other interesting features on the outside. Don't forget the garage!

Step 2: Plan

Draw a house plan to scale which shows where all the rooms will be. This plan must include:

- The measurement of the outside walls of the house.
- The size of the rooms inside the house.
- Symbols showing where you would have things like toilets, baths, showers, beds, doors, windows and built in furnishings (i.e. all cupboards and wardrobes). Make sure you have a key that shows what the symbols represent.

Step 3: The final Look

- Draw the 4 elevations (or side views) of your house and include all measurements. They must match your floor plan. The elevations should include the shape of the windows, roof, and the front view must also show the brick work.
- The bathroom walls are to be tiled using tiles that are 20 cm by 20 cm. Design the pattern that will cover the walls of your bathroom. You need to show at least 5 repetitions of the pattern both horizontally and vertically.

Step 4: The Details

- What is the size of each bedroom?
- How much carpet will you need for each of your bedrooms in total?
- What are the dimensions of your bathrooms? Remember length, width *and* height.
- How many tiles will you need for your bathroom walls?
- How much fencing will YOUR house require?
- What is the size of your house in square metres?

Step 5: Features

Describe the features of your house and describe why you have designed it the way you have. Try to write your description as though you are promoting the house for sale.

Go back to the Marking Guidelines and check and double check that you have included everything before you submit your work!

I look forward to seeing your Dream House designs,

Mr Whitehall