

AREA OF A QUADRILATERAL

INVESTIGATION

DREAM HOME

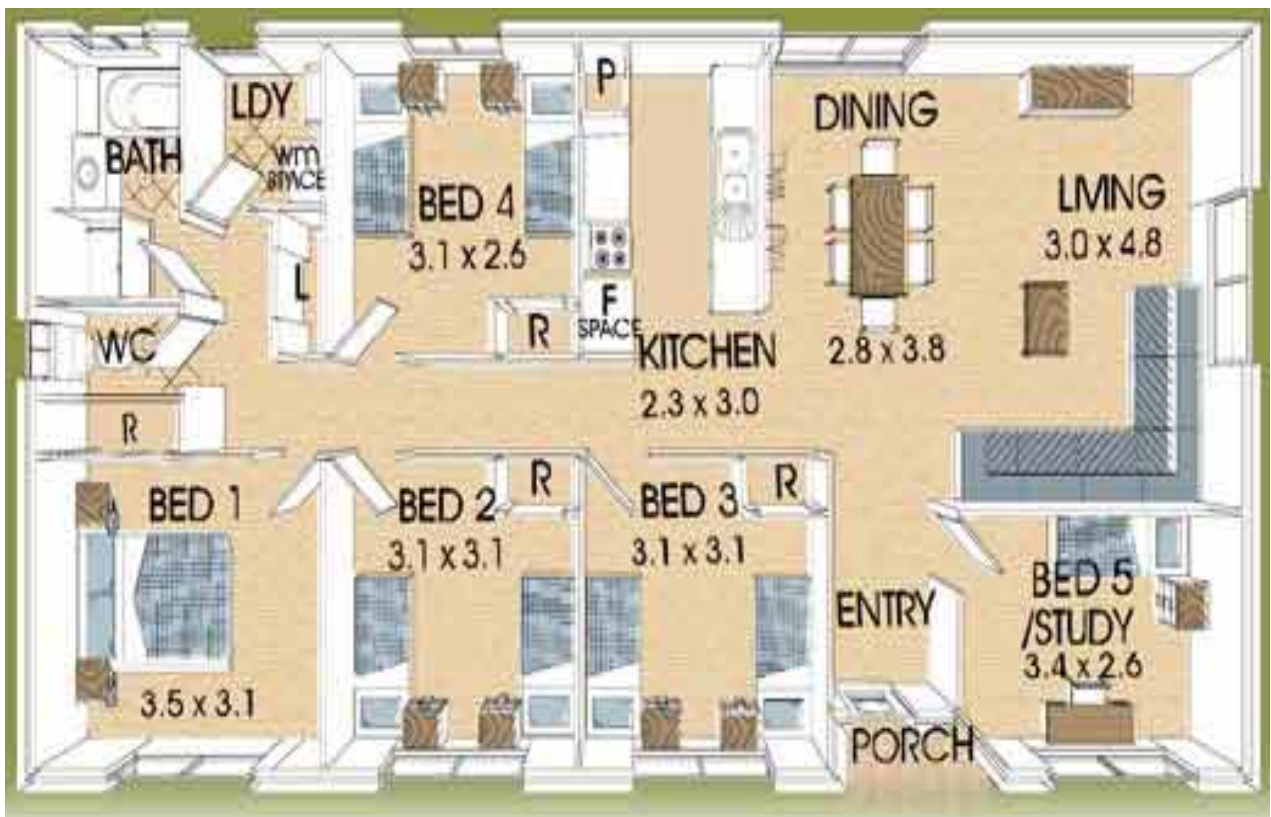
Q1. Refer to the attached sample house plans and costs.

First, design a house plan for a rectangular house with 3 bedrooms. Draw an accurate house plan. You must also show the overall dimensions of the house and the dimensions of each room.

Next, construct your model house to scale from a cardboard carton. You will not make detailed structures such as kitchen fixtures and lights.

Then in one well-presented report for your group, calculate:

- The floor area in m^2
- The area to be bricked
- The number of bricks needed
- The cost of brickwork
- The roof area to be tiled
- The cost of roof tiles
- The area to be painted
- The number and size of cans of paint needed
- The cost of painting all internal walls



FLOOR AREA

Area of rectangle = Length X Width

COST OF BRICKWORK

Ignore doors and windows

All walls are 2.4 metres high

There are 30 bricks per m^2

Each brick costs \$ 1

Bricks are bought in 1000 brick loads

COST OF ROOF TILES

The pitch of the roof is 22°

Estimate the sloped length of the roof and then calculate the sloped roof area

Cost of roof tiles is \$ 35 per m^2

COST OF PAINT ON INTERNAL WALLS

The same paint colour is used throughout

Ignore doors and windows

All walls are 2.4 metres high

Two coats of internal paint are needed

One Litre of paint covers about 15 m^2

Costs of paint are: 1 Litre costs \$ 20

2 Litres costs \$ 30

4 Litres costs \$ 40

10 Litres costs \$ 100

Q2. Imagine that you are going to build your home with a well-respected builder. You will need to find the website and choose a house design that suits your needs. Answer these questions in the spaces provided.

- What is the builder's URL address?
- How many bedrooms and bathrooms do you want?
- What other features do you want - two storey, double garage, alfresco etc?
- Choose a design that you like.
- Find the price to build it.
- Where is the nearest display home that you can visit?
- Are there any added extras? If so, what are they and how much do they cost?