

# ACADEMIQUE



**CPC30611 Certificate III in Painting and Decorating**

**CPCCCM2003B – Calculate and Cost Work**

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## **EXCHANGE OF INFORMATION**

### **Drawings and specifications (Specs)**

Drawings and specifications should provide a full and precise description of materials, the work, and the workmanship, and should cover off-site priming.

A specification for individual painting contracts and a schedule of finishes, setting out details of location, nature of surfaces, paint system, and colours is recommended, with drawings and extracts from the specification and bills of quantities being provided for the sub-contractors use.

### **Consultation**

The building contractor should arrange early discussion with his subcontractors to agree on sequences of work and methods of access.

### **Building programme**

Following the above meeting, the builder should make a detailed programme of work and issue to all contractors covering all extras and variations which may be necessary in the course of general progress.

### **Site meetings**

On building contracts of any reasonable size, monthly meetings under the chairmanship of the architect are recommended. The subcontractors should be represented.

### **Time schedule**

The progress of painting operations should be co-ordinated with the work of other trades, to ensure that the surfaces to be painted are in a fit condition to receive the paint and to ensure that on-going building operations do not cause damage to the paintwork. It is important, for example, to allow enough time for the drying of plasterwork before it is painted in order to avoid the spoiling of the finished paintwork which results when cutting away and making good.

The successful painting of most surfaces depends largely on their dryness at the time of painting; it is important therefore that the work plan allows enough time for drying. The time required will vary according to the type and nature of the surface and to the normal weather conditions. In new construction where the building operations require the use of large quantities of water, it is better if the heating and ventilating equipment could be put into operation well before the painting is to begin.

On large contracts all of the trade groups are represented on a time line called a "critical path plan" which sets out start and finish dates for all involved.

The "scope" of the specification sets out the work or service you are expected to provide in the contract.

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Any alteration to the signed contract must be recorded in writing and signed off by the owner/architect or their representative and by you (the contractor). This provides proof of additional labour or material cost over and above the contract price.

## **Overheads**

When developing a cost quotation for a contract there are many hidden costings (overheads) that you must add into the costing. Here are some examples:

- Rents
- Insurances
- Telephone costs
- Rates
- Legal costs
- Accountancy costs
- Office staff costs
- Vehicle cost
- Depreciation
- Petrol/running
- Repairs and maintenance
- Finance cost
- Power
- Tools and equipment
- Plant hire

## Taxation

- PAYE
- GST
- ACC
- Kiwisaver

Include a margin of profit return on investment, plant/equipment and vehicles:

- Material costs
- Paint etc.
- Labour costs

A proportion of each of the “overheads” is added to the profit margin, materials cost and labour cost in order to produce the project price.

Each contract must be judged in relationship to the expected quality of finish. Expected value of work.

On many contracts there may be regulations through local councils setting out specific requirements that must be met, i.e. lead paint removal and the disposal of the toxic trade waste. These requirements will require additional expenses by the contractor that must be included in the price.

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Estimation of materials is often done by a quantity surveyor who works through the plans/elevations and specifications along with the colour schedule to work out quantities of materials required. There will be a labour cost rate relating to:

- Working at height
- Working in confined spaces
- Working in public areas
- Type of coating to be applied

**In conclusion:**

The contract price will include:

Overhead costs  
Materials costs  
Compliance costs  
Profit

= contract price.

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## Costing Exercise

Use this easy step by step formulae to complete each exercise.

- 1) Perimeter x Room Height = Area.
- 2) Area x the number of coats of paint = Total area.
- 3) Total Area  $\div$  Paint Spreading Rate = Litres of Paint required.

### Exercise Number One

#### **SPECIFICATIONS**

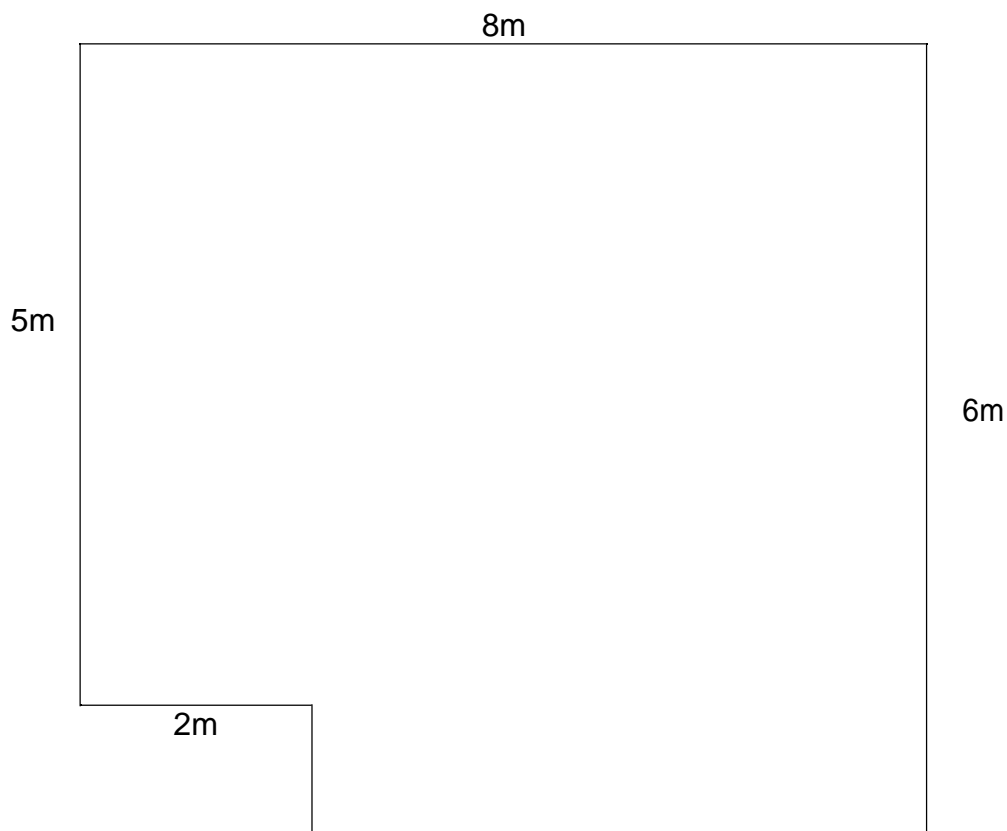
Paint Spreading Rate = 12 m<sup>2</sup>

Room Height = 2.4m

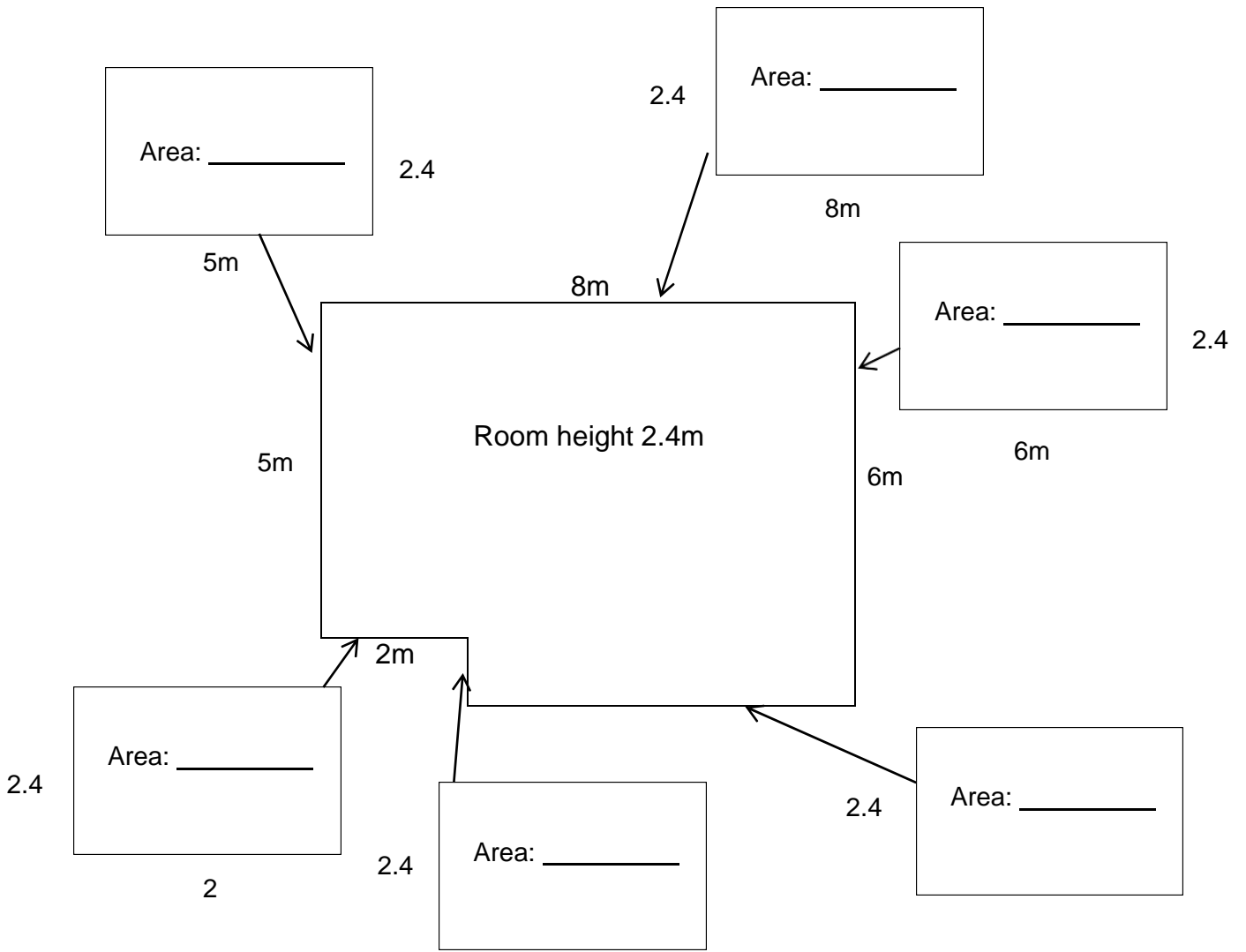
Paint Cost = \$10.00 per Litre

2 Coats of Paint Required

Labour Cost = \$12.00 per m<sup>2</sup> / per coat



# Wall Areas




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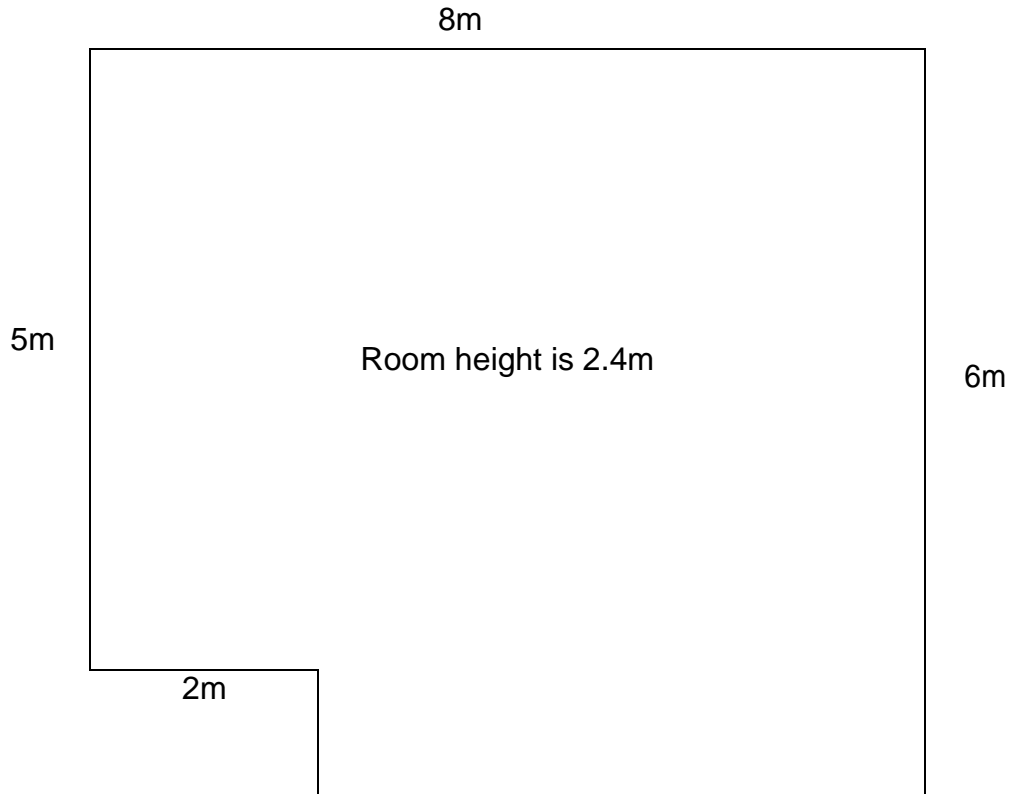
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**Total Area:** \_\_\_\_\_

**OR The "MAKE LIFE EASY METHOD"**



$$\begin{array}{r} \text{Perimeter} \\ \hline (5 + 8 + 6 + 6 + 1 + 2) \\ \text{All walls together} \end{array} \quad \times \quad \begin{array}{r} \text{Height} \\ \hline \end{array} = \begin{array}{r} \text{Area} \\ \hline \end{array} \quad \text{m}^2$$

**OR The "MAKE LIFE EVEN EASIER METHOD"**

$$\begin{array}{r} \text{Perimeter} \\ \hline (8 + 6 = \_\_\_ \times 2 = \_\_\_) \end{array} \quad \times \quad \begin{array}{r} \text{Height} \\ \hline \end{array} = \begin{array}{r} \text{Area} \\ \hline \end{array} \quad \text{m}^2$$

Area to be painted	X	Number of Coats	=	Total Area
		2 coats		

Total Area to be painted	÷	Paint Spreading rate	=	How much paint
		12 m <sup>2</sup> per L		

ROUNDED \_\_\_\_\_LITRES

Litres of Paint Required	X	Price per Litre of Paint	=	Actual cost of materials
		\$10.00 per L		

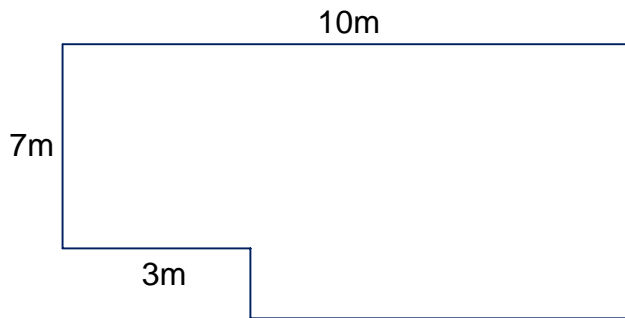
Total Area to be Painted	X	Labour cost per m <sup>2</sup>	=	Actual cost of labour
		\$12 per m <sup>2</sup>		

Actual Costs		15% overheads + profit 10%		Quotation price
Materials: _____	X	25% or 1.25	=	Materials: \$ _____
Labour: _____	X	25% or 1.25	=	Labour: \$ _____

**Total Cost:\$** \_\_\_\_\_



## Example 2



8m Spread rate = 9m<sup>2</sup> per L  
 Paint Cost = \$10.50 per L  
 3 coats of paint required  
 Labour = \$14.00 per m<sup>2</sup>/per coat  
 Room Height = 2.4m

AREA  
 \_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_  
 PERIMETER X HEIGHT = AREA

TOTAL AREA  
 \_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_  
 AREA x COATS = TOTAL AREA

TOTAL AREA  
 \_\_\_\_\_ ÷ \_\_\_\_\_  
 TOTAL AREA ÷ SPREADING RATE

PAINT REQUIRED  
 = \_\_\_\_\_ Litres  
 ROUNDED \_\_\_\_\_ Litres

TOTAL COST OF PAINT @ \$10.50 PER LITRE  
 \_\_\_\_\_ X \_\_\_\_\_ =  
 NUMBER OF LITRES X COST PER LITRE

ACTUAL MATERIAL COST  
 \$ \_\_\_\_\_

TOTAL LABOUR COST @ \$14 PER m<sup>2</sup>  
 \_\_\_\_\_ X \_\_\_\_\_ =  
 TOTAL AREA X CHARGE RATE PER m<sup>2</sup>

ACTUAL LABOUR COST  
 \$ \_\_\_\_\_

\_\_\_\_\_ X 1.25  
 ACTUAL MATERIAL PROFIT &  
 OVERHEADS =

QUOTE  
 \_\_\_\_\_ COST  
 MATERIALS

\_\_\_\_\_ X 1.25  
 ACTUAL LABOUR PROFIT &  
 OVERHEADS =

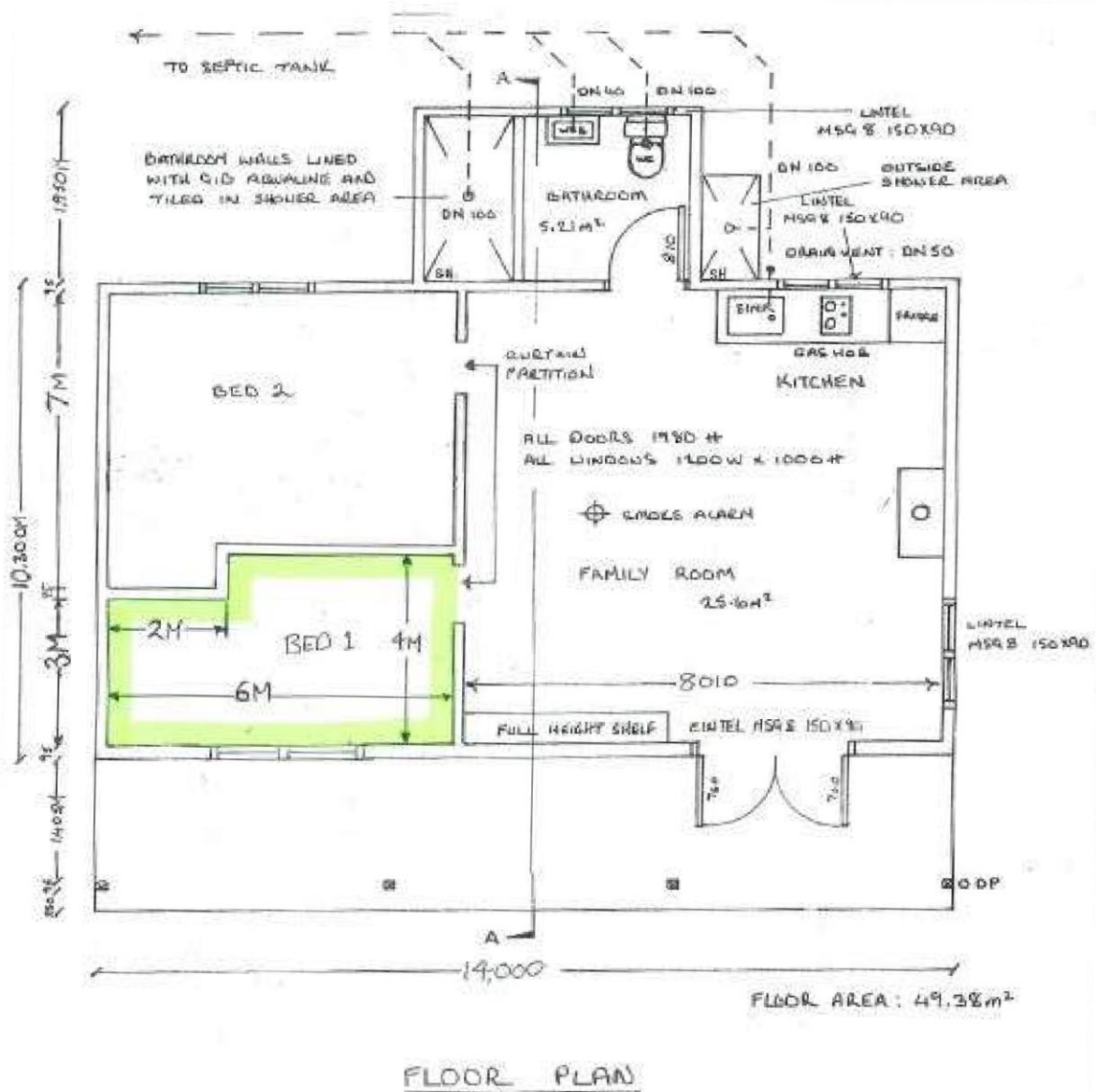
QUOTE  
 \_\_\_\_\_ COST  
 LABOUR  
 TOTAL COST \$ \_\_\_\_\_

**Example 3** Using the drawing below, calculate the total cost of painting the walls of Bed 1. Prepare a written quote.



**SPECIFICATIONS**

Spread rate = 11m<sup>2</sup> per L  
 Paint Cost = \$10.50 per L  
 2 coats of Paint required  
 Labour = \$15.00 per m<sup>2</sup>/per coat  
 Room Height = 2.4m



# CALCS

AREA

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

PERIMETER X HEIGHT = AREA

TOTAL AREA

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

AREA x COATS = TOTAL AREA

TOTAL AREA

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}$$

TOTAL AREA ÷ SPREADING RATE

PAINT REQUIRED

=                      Litres

ROUNDED        Litres

TOTAL COST OF PAINT

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} =$$

NUMBER OF LITRES x COST PER LITRE

ACTUAL MATERIAL COST

\$                     

TOTAL LABOUR COST

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} =$$

TOTAL AREA x CHARGE RATE PER M<sup>2</sup>

ACTUAL LABOUR COST

\$                     

$$\underline{\hspace{2cm}} \times 1.25$$

ACTUAL MATERIAL PROFIT & OVERHEADS

=

<u>                    </u>	QUOTE
COST MATERIALS	COST MATERIALS

$$\underline{\hspace{2cm}} \times 1.25$$

ACTUAL LABOUR PROFIT & OVERHEADS

=

<u>                    </u>	QUOTE
COST LABOUR	COST LABOUR

**Using this example please complete the quote on the next page.**

TOTAL COST \$

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Sarah Juss  
35 High Rise Close  
Christchurch

22 May 2016

Quote Number: 1157

Dear Sarah,

Thank you for the opportunity to quote the work at the above address.

**SCOPE:**

Painting your master bedroom walls.

**REPORT:**

I have priced to supply paint required.

**JOB DESCRIPTION:**

Lightly sand walls and apply two top coats of acrylic low sheen.

**PRICES**

To all travel, materials & labour: \$

Kind Regards

