

# Grade 8 Technology Worksheet

## Costing

### Calculate the cost of combining materials to make concrete

Mr Ndabeni is going to build a double-storey house for himself. The house will be 20m x 12m. He obtained the pamphlet below from **Build it** to help him use the correct concrete ratios.

You will need to calculate how much cement, sand and stone he will need for each of the following:

- 12 cubic metres of concrete for the foundations
- 5 cubic metres of concrete for the floors
- 13 cubic metres of concrete for the top floor of the double-storey, which will be precast concrete
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**LARGE BATCHES**  
 Low-strength concrete suitable for eg: house foundations

Cement	River sand	Stone
 15Mpa 5KG		
1 Bag	2 Wheel Barrows	2 Wheel Barrows

Cement	River sand	Stone
 10Mpa 10KG		
1 Bag	1.5 wheelbarrows	1.5 wheelbarrows

Cement	River sand	Stone
 30Mpa 30KG		
1 Bag	1 wheel barrow	1 wheel barrow

Answer the following questions:

- 1.1 How much cement, sand and stone will he need for the foundations? [6 marks]
- 1.2 How many wheelbarrows of river sand will he need for the floors? How is this measured in cubic metres? [4 marks]
- 1.3 How many wheelbarrows of stone will he need for the top floor? How is this measured in cubic metres? [4 marks]
- 1.4 How many pockets of cement will he need altogether? [3 marks]

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1.5 If cement costs R66 per pocket, how much will Mr Ndabeni spend? [3 marks]

[20 marks]

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### Suggested Solutions

Question number	Possible marks	Answers
1	6 marks	1.1 66 bags cement; 9m <sup>3</sup> sand and 9m <sup>3</sup> stone
	4 marks	1.2 52 ½ wheelbarrows sand, i.e. 24.5cm <sup>3</sup>
	4 marks	1.3 130 wheelbarrows stone, i.e. 84.5m <sup>3</sup>
	3 marks	1.4 231 pockets cement altogether
	3 marks	1.5 R15,246.00

[20 marks]