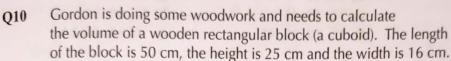
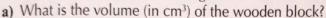
## Multiples, Factors and Prime Factors

- The prime factor decomposition of a certain number is  $3^2 \times 5 \times 11$ . 08
  - a) Write down the number.
  - b) Write down the prime factor decomposition of 165.
- 09 a) Write down the first ten square numbers.
  - b) From your list, pick out all the multiples of 2.
  - c) From your list, pick out all the multiples of 3.
  - d) From your list, pick out any cube numbers.
  - e) Add the numbers in your list together and write down the prime factor decomposition of the total.





b) Express the number found in part a) as a product of its prime factors.

c) Gordon needs to cut the block into smaller blocks with dimensions 4 cm What is the maximum number of small blocks Gordon can make my the larger block? Make sure you show all your working.

from Notes

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Da is €/e number?

b) What is the prime factor decomposition of half of this number?

- c) What is the prime factor decomposition of a quarter of the number?
- d) What is the prime factor decomposition of an eighth of the number?

Bryan and Sue were playing a guessing game. Sue thought of a number 012 between 1 and 100, which Bryan had to guess. Bryan was allowed to ask five questions, which are listed with Sue's responses in the table below.

Bryan's Questions	Sue's Responses
Is it prime?	No
Is it odd?	No
Is it less than 50?	Yes
Is it a multiple of 3?	Yes
Is it a multiple of 7?	Yes

What is the number that Sue thought of?

Use the questions to narrow down the possible numbers keep going until you only have one left.

