

Brief Intro to Bar Models for Problem Solving in Maths



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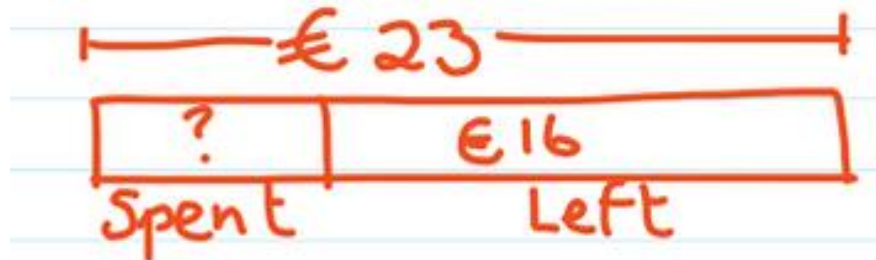
Bar Models

- A drawing that looks like bar, (i.e. from a bar graph), used to illustrate number relationships.
- Used extensively as a problem solving strategy, esp in Asian countries, e.g. Singapore
- Two main types:
 - Part-whole models used to represent a whole, that is subdivided into parts
 - Comparison models used when comparing two or more quantities

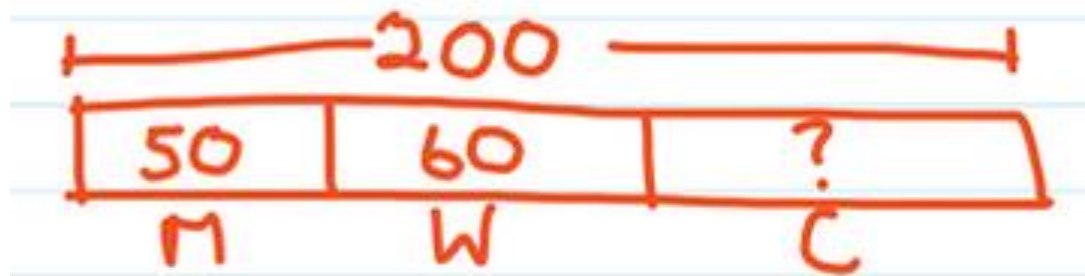
Bar Models: Part-whole models

2 part & 3 part (A&S)

Mary had €23. She spent some. How much did she spend if she had €16 left?



There were 200 people at the concert altogether. If there were 50 men and 60 women, how many children were at the concert?



Bar Models: Comparison models

1 step & 2 step (A&S)

9,568 people attended the summer festival this year. That was 2,461 more than attended it the previous year.

- a) How many attended the previous year?
- b) How many attended in total this year and last?



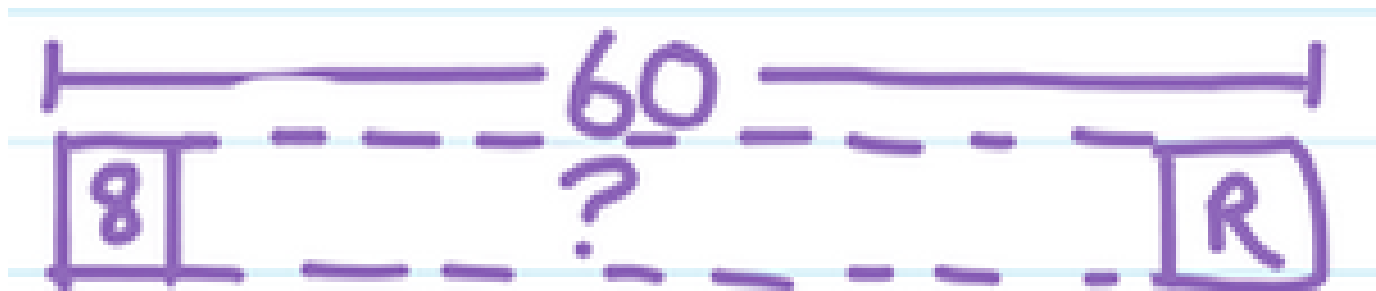
Bar Models: Part-whole models:

missing product/divisor/quotient (M&D)

7 helmets costs €343. How much does one helmet cost?



How many bags of 8 apples could be made from a box of 60, and how many would be left over?



Bar Models: Comparison models

1 step & 2 step (M&D)

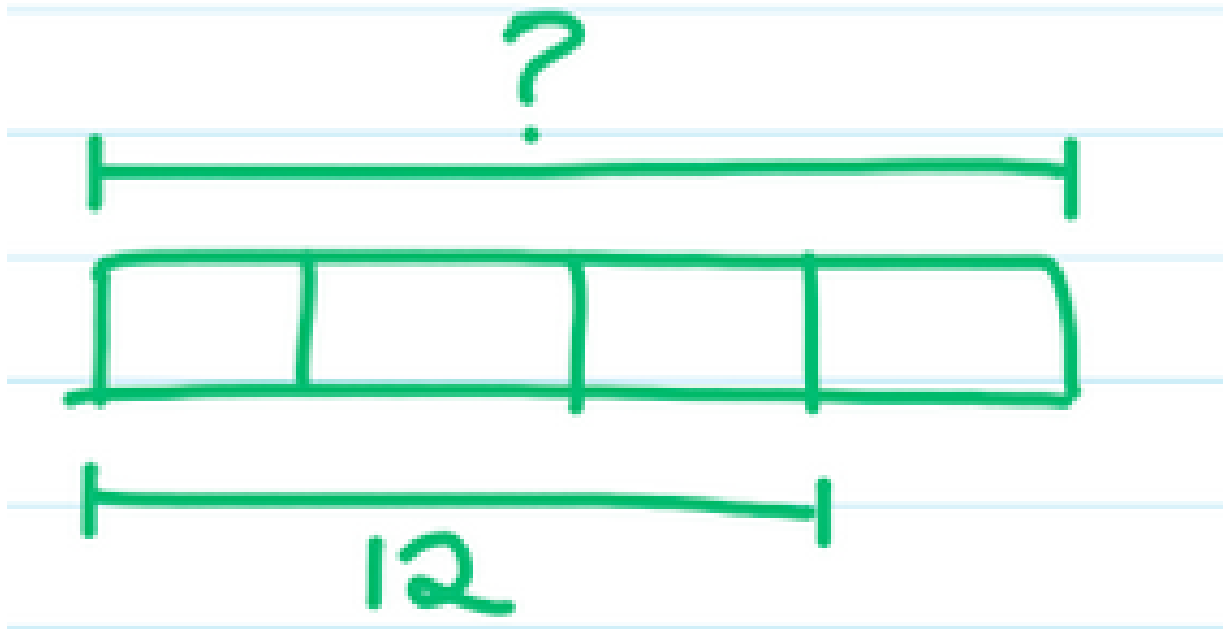
A games console is 5 times more expensive than a game. If the game is €45:

- How much is the games console?
- How much would a games console and a game be altogether?

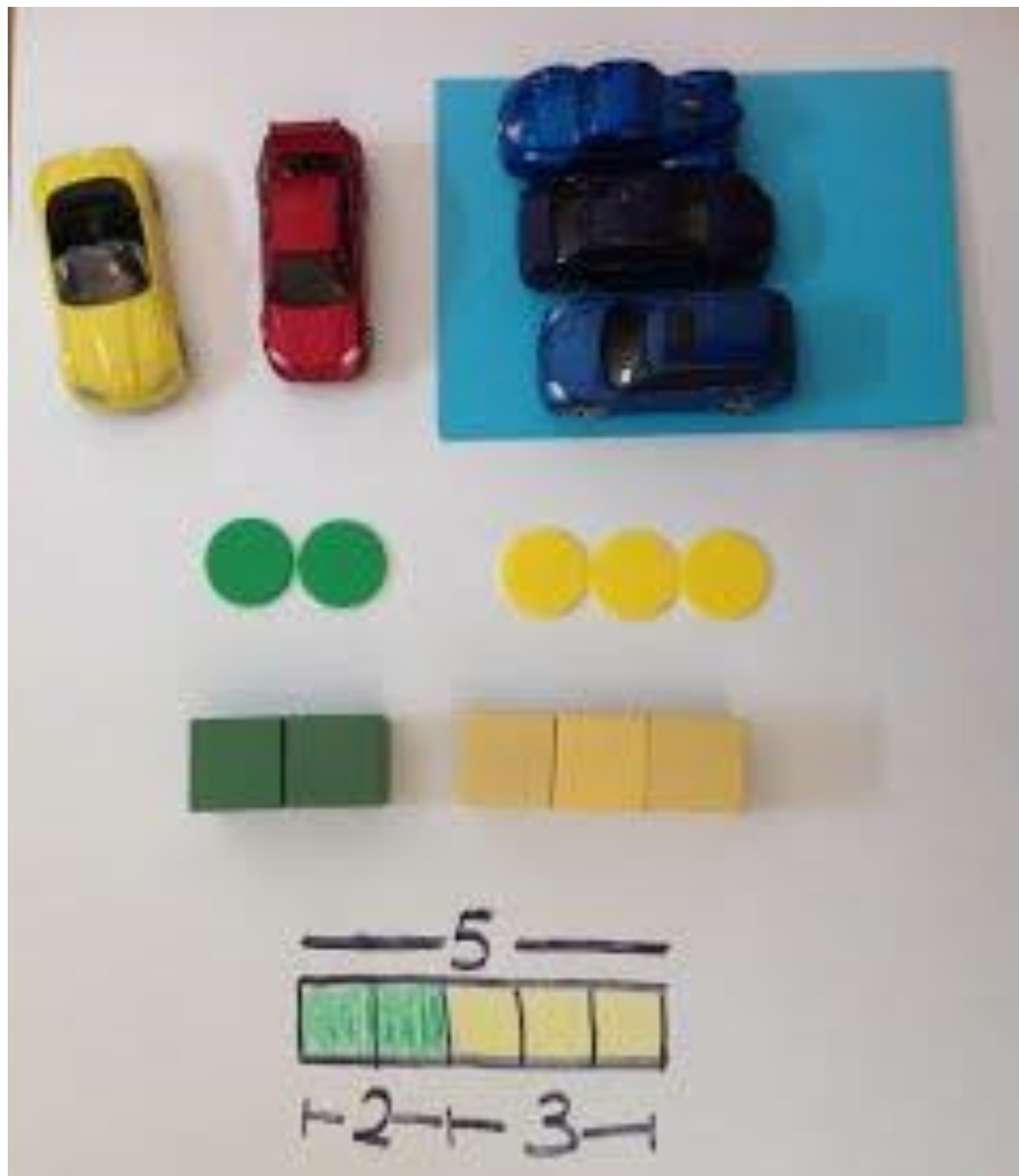


Bar Models: Fractions

$\frac{3}{4}$ of a number is 12. What is the whole number?

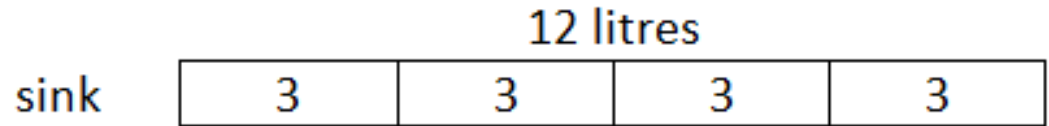
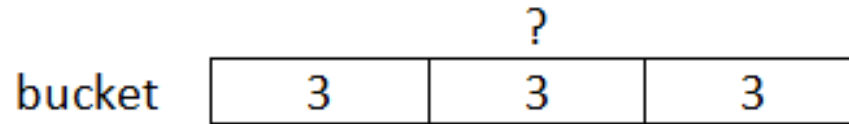


From
infants..

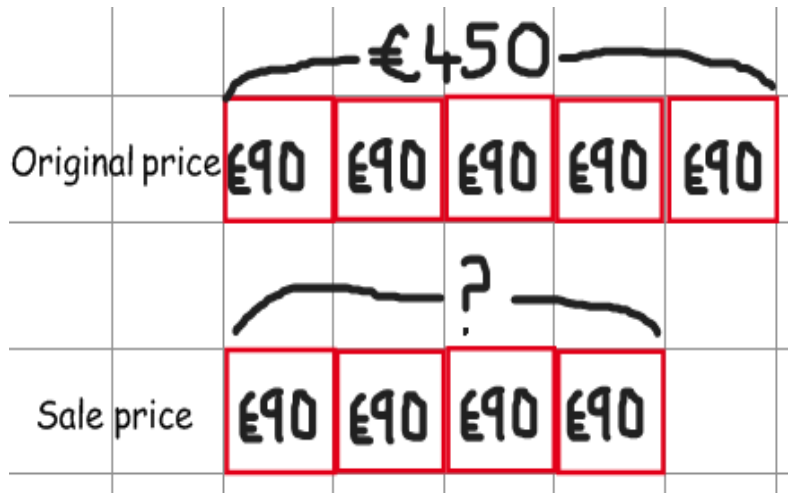


...to sixth,
and
beyond

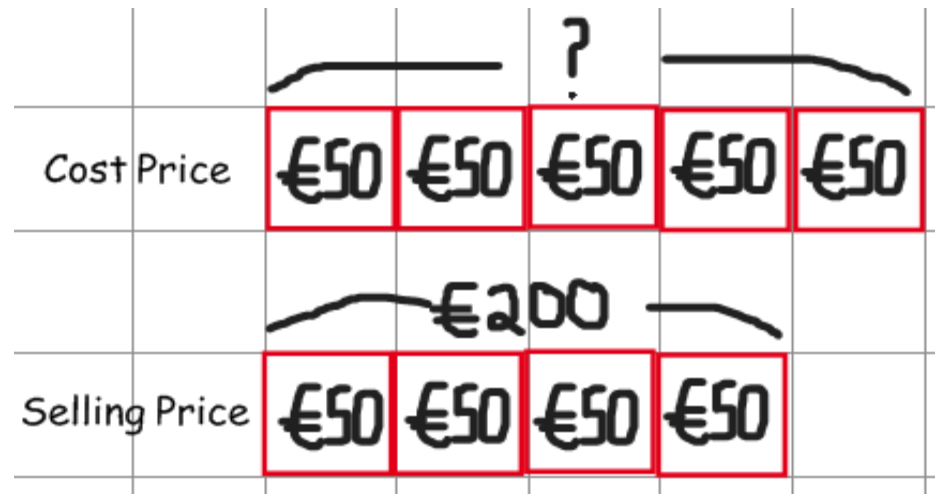
The ratio of the capacity of the bucket to the sink is 3:4. If the capacity of the sink is 12 litres, what is the capacity of the bucket?



A TV costing €450 has been reduced by 20% in a sale. What is its sale price?



Kitty sold her bicycle second hand for €200, a loss of 20%. For how much did she purchase the bicycle?



Further Reading:

[Picture this...](#)

[Singapore Math](#)

[Thinking Blocks](#)

[Roughly speaking...](#)

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