

## HOW OLD IS TOM? and other problems

- 1) Tom's sister Ann is twice as old as Tom, and his brother Jerry is 4 years older than Ann. The ages of all 3 children add up to 49.
  - (a) If Tom is  $x$  years old, write expressions for Ann's and Jerry's ages.
  - (b) Form an equation in  $x$  and solve it. How old is Tom?
- 2) Tom's brother Joe is 5 years older than Tom, and his sister Emily is twice as old as Joe. The total of their ages is 43. How old is Tom?
- 3) The length of a rectangle is 7cm more than the width. The perimeter is 62cm. If the width is  $x$  cm, write down an equation in  $x$  and solve it.
- 4) A choc-ice costs 8p more than a cone. The cost of 2 cones and 3 choc-ices is £1.44. If a choc-ice costs  $x$  pence,
  - (a) What is the price of a cone?
  - (b) Write down an equation in  $x$  and solve it.
- 5) Ann drives from Ayton to Beeton, a distance of 415 miles. She travels for  $x$  hours on the motorway, averaging 70 mph; the rest of the time, on ordinary roads, she averages 40 mph. The whole journey takes 7 hours.
  - (a) How long, in terms of  $x$ , does she spend on ordinary roads?
  - (b) Form an equation in  $x$  and solve it.
- 6) Tom's brother Albert is 8 years older than Tom. Their father is 3 times as old as Albert, and 32 years older than Tom. Tom is  $x$  years old.
  - (a) Write two different expressions for the father's age in terms of  $x$ .
  - (b) Hence form an equation in  $x$  and solve it. How old is Tom?
- 7) A cup of coffee costs 12p more than a cup of tea. 6 cups of coffee cost the same as 8 cups of tea. If a cup of tea costs  $x$  pence, form an equation in  $x$  and solve it.
- 8) A rollerball pen costs 60p more than a biro. 2 rollerball pens cost 30p less than 8 Biros. If a biro costs  $x$  pence,
  - (a) Write down an expression for the cost of 2 rollerball pens.
  - (b) Write down an expression for the cost of 8 bios.
  - (c) Form an equation in  $x$  and solve it to find the cost of a biro.
- 9) Tom's sister Anita is 7 years older than Tom. Tom's mother is 3 times as old as Anita, and Tom's father is 5 times as old as Tom. Tom's father is one year older than his mother. How old is Tom?
- 10) Jo is twice as old as Tom, and George is 8 years older than Jo. Tom's grandmother is 3 times as old as George and 5 times as old as Jo. How old is Tom?
- 11) Tom travels by bus from home to Ayton, which takes 3 hours. He gets a lift home by car, which travels 18 mph faster than the bus, and so he gets home in 1 hour. If the bus travels at  $x$  mph, form an equation in  $x$  and solve it.
- 12) Tom's Aunt Hilda is 3 times as old as Tom, and Uncle Alf is 10 years older than Hilda. Tom's sister Diana is 8 years older than Tom and half Uncle Alf's age. How old is Tom?
- 13) At the moment Tom's grandmother is 4 times as old as Tom. In 8 years time she will only be 3 times as old. How old is Tom?

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