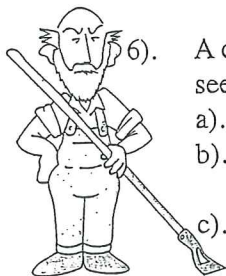


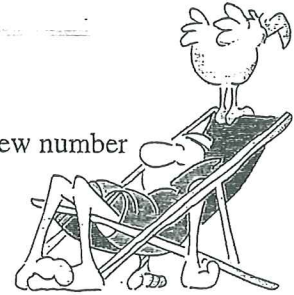
## Forming and Solving Algebraic Equations.



- 1). A gardener is planting flowers. He buys 4 bags with  $t$  daffodils in each. When he opens up the bags he finds 7 daffodil bulbs have gone bad.
  - a). Write an expression for the number of daffodils he can plant.
  - b). He actually planted 33 daffodils. Use this information to form an equation.
  - c). Solve this equation to find the number of daffodils in each bag.
  
- 2). Sally has  $f$  bags of lego, in each are 22 lego blocks. Sam has 9 lego blocks spare so gives them to Sally.
  - a). Write an expression for the number of lego blocks Sally has.
  - b). Sally actually has 119 blocks of lego. Use this information to form an equation.
  - c). Solve this equation to find the number of lego bags Sally has.
  
- 3). In Marbles R Us, they sell marbles in boxes. Zeeshan buys 9 bags, each containing  $q$  marbles. On the way home he plays Mark and wins another 8 marbles.
  - a). Write an expression for the number of marbles Zeeshan has after these games.
  - b). Zeeshan counts his marbles and find he has 116.  
Use this information to form an equation.
  - c). Solve this equation to find how many marbles are sold in each bag.
  
- 4). A newspaper boy gets paid  $\pounds g$  a week for delivering papers. After 4 weeks he asks for his wages, but he is deducted  $\pounds 2$  for delivering papers to wrong houses.
  - a). Write an expression for the amount he is paid, in  $\pounds$ 's.
  - b). He looks in his pay packet and finds  $\pounds 22$ . Use this information to form an equation.
  - c). Solve this equation to find how much he is paid per week.
  
- 5). On a school trip,  $y$  minibuses are needed. Each minibus will hold 14 pupils. After filling up each minibus the last mini bus has 3 spare seats.
  - a). Write an expression for the number of pupils going on the trip.
  - b). The teacher counts 81 pupils getting on the minibuses.  
Use this information to form an equation.
  - c). Solve this equation to find how many minibuses were used.
  
- 6). A cucumber farmer plants  $p$  cucumber seeds in a row. He plants 6 rows of these cucumber seeds. Three months later he finds insects have eaten 7 of the plants.
  - a). Write down an expression for the number of cucumbers plants he has left.
  - b). His wife boxes up the plants for market and finds she has 71 cucumber plants.  
Use this information to form an equation.
  - c). Solve this equation to find out how many cucumber seeds he planted in a row.
  
- 7). Gemma gets paid  $\pounds 8$  at weekends for washing cars. After  $x$  weeks she asks for her wages, included in her wages is a Christmas bonus of  $\pounds 7$ .
  - a). Write an expression for the amount she is paid.
  - b). She looks in her pay packet and finds  $\pounds 79$ . Use this information to form an equation.
  - c). Solve this equation to find how many weeks pay she picks up.
  
- 8). Parents transport the School football team to a match in  $p$  cars. Each car holds 4 members of the squad. All the cars are full except the last one which only has 1 player in it.
  - a). Write an expression for the number of players taken to the match.
  - b). The manager checks the 17 players in the squad arrive.  
Use this information to form an equation.
  - c). Solve this equation to find how many cars are used.



- 9). Billy thinks of a number,  $v$ . He doubles it and subtracts 5 to get a new number
- Write an expression for the new number.
  - 27 is his new number. Use this information to form an equation.
  - Solve this equation to find what the original number was.

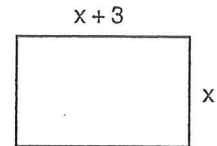


- 10). Anthony now thinks of a number,  $f$ . He trebles it and adds 9 to get a new number
- Write an expression for the new number.
  - 42 is his new number. Use this information to form an equation.
  - Solve this equation to find what the original number was.

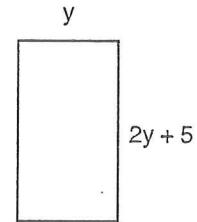


- 11). Lynne joins in and thinks of a number,  $q$ . She halves it and adds 5 to get a new number
- Write an expression for the new number.
  - 14 is her new number. Use this information to form an equation.
  - Solve this equation to find what the original number was.

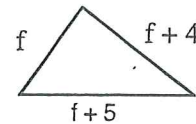
- 12). A rectangular flower bed is  $x$  metres wide by  $(x + 3)$  metres long.
- Write an expression for the perimeter of the flower bed.
  - The perimeter is measured at 34 metres. Use this information to form an equation.
  - Solve this equation to find the length **and** width of the flower bed.



- 13). A rectangular lawn is measured at  $y$  metres wide by  $(2y + 5)$  metres long.
- Write an expression for the perimeter of the lawn.
  - The perimeter is measured at 52 metres. Use this information to form an equation.
  - Solve this equation to find the length **and** width of the lawn.

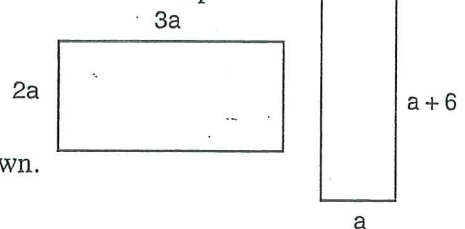


- 14). A triangular playground has its three sides measured at  $f$  metres,  $(f + 4)$  metres and  $(f + 5)$  metres.
- Write an expression for the perimeter of the playground.
  - The perimeter is measured at 51 metres. Use this information to form an equation.
  - Solve this equation to find the lengths of **all** the sides of the playground.



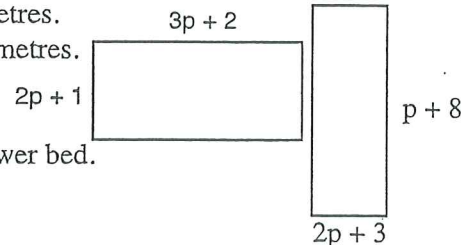
### Harder Questions.

- 15). Two rectangular lawns, shown, are made so that each has the **same sized** perimeter. The first has dimensions  $2a$  metres by  $3a$  metres. The second has dimensions  $a$  metres by  $(a + 6)$  metres.



- Use this information to form an equation.
- Solve this equation to find the perimeter of each lawn.
- State the dimensions of each lawn.

- 16). Two rectangular flower beds, shown, are made so that each has the **same sized** perimeter. The first has dimensions  $(3p + 2)$  metres by  $(2p + 1)$  metres. The second has dimensions  $(p + 8)$  metres by  $(2p + 3)$  metres.



- Use this information to form an equation.
- Solve this equation to find the perimeter of each flower bed.
- State the dimensions of each flower bed.

