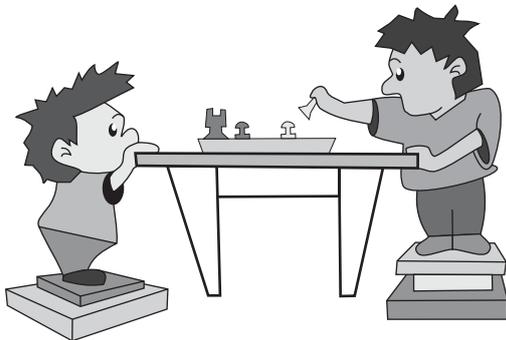


# PROBLEM SOLVING 1

MARK

# 31

1. Youssef and Tahg were playing chess. The loser of each game gave the winner a chocolate. They played 12 games and Youssef ended up with two more pieces of chocolate than Tahg.  
How many games did they each win?



Youssef

Tahg

2. Ashleigh had 8 black socks and 8 white socks in her sock draw. She took socks out of her draw one at a time without looking at them.  
(a) How many socks would she need to take out of the draw before she definitely had a pair?

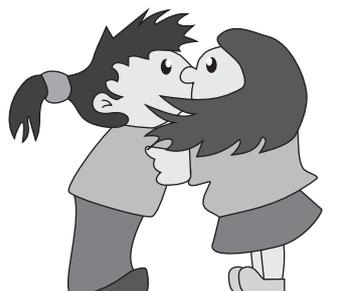
- (b) How many socks would she need to take out of the draw before she definitely had a pair of black socks?

3. Ally, Kellie, Sally and Nellie each chose a different sport to play. The four sports they chose from were tennis, netball, basketball and squash.  
Use the information below to find which sport each girl played.

- ▶ Ally shot goals in her sport
- ▶ Sally watched one of the other girls play tennis
- ▶ Sally needed a racquet to play her sport
- ▶ Nellie dribbled a ball in her sport

Ally	
Kellie	
Sally	
Nellie	

4. Four friends, Adelaide, Matilda, Holly and Greta, gave each other a kiss when they got back to school after holidays.  
How many kisses were there?



5. A palindrome is a word or number that reads the same forwards or backwards.

Examples of palindromes:  
1331 8225228 pup Glenelg

(a) Rearrange the following letters to form words that are palindromes.

DDA UMM YAKKA

MADMA ARARD

(b) Hayley looked at the time she was eating lunch and noticed it was a palindrome - 1221. How many minutes before the next time that is a palindrome?

(c) Complete this multiplication to show the answer is a palindrome.

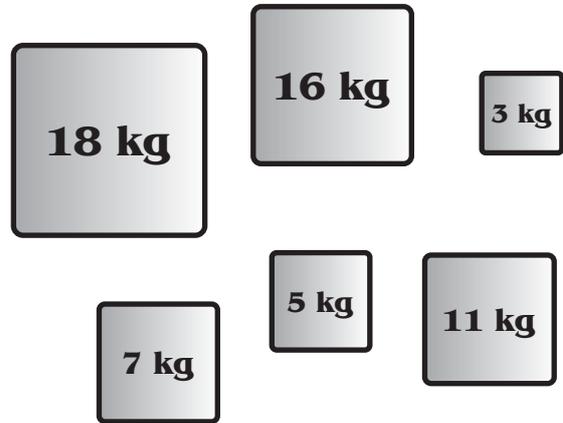
$$\begin{array}{r} 1234321 \\ \times 11 \\ \hline \\ \hline \end{array}$$

(d) Change MUM into DAD in three steps by changing one letter at a time to form a new word.

Example  
CAT can be changed into DOG in three steps.  
CAT  
COT  
DOT  
DOG

M	U	M
D	A	D

6. Caleb has to stack the six boxes below onto two shelves. The mass of each box is shown. Each shelf can only support 30 kg. Show which boxes should be placed on each shelf.



\_\_\_\_\_ Shelf 1

\_\_\_\_\_ Shelf 2

7. When it is 8 a.m. in Victoria it is 6 a.m. in Western Australia.  
 (a) A plane leaves Melbourne at 3 p.m. and takes five hours to fly to Perth.

What will be the time in Perth when the plane arrives?

(b) It leaves Perth the next day at 10 a.m. to fly back to Melbourne. What will be the time in Melbourne when it arrives?