

## Simultaneous Equations Problem Solving

1. Rio bought 3 hot snacks and 5 ham pizzas for \$25.00. If, however Rio had bought 8 hot snacks and 4 ham pizzas he would have paid \$34.00. Find the cost Rio paid per hot snack and per ham pizza, to the nearest cent.
2. Mrs. Mac bought 15 chocolates and 6 duck sweets for \$69.75. If, however, she had bought 4 chocolates and 5 duck sweets the total cost would have been \$26.25. Write down two equations in  $c$  and  $d$  to represent the information given above. Hence solve the equations to find the cost of a chocolate and a duck sweet.
3. A girl went to a mall and bought 6 packs of Sunny D and 7 packs Orchard juice at a total cost of \$92.25. If she had bought 3 packs of Sunny D and 6 packs of Orchard juice instead, the total cost would have been \$66.75.  
Calculate
  - (a) the cost per pack of Sunny D
  - (b) the cost per pack of Orchard juice.
4. A girl bought 4 packets of rice and 3 packets of peas for \$22.45. If she had bought 5 packets of rice and 7 packets of peas she would have paid \$37.00.
  - (a) Write down two equations to represent the information given above
  - (b) Calculate the cost per packet of rice
  - (c) Calculate the cost per packet of peas
5. At a supermarket, 7 malts and 6 prune juices cost \$41.00, and 8 malts and 4 prune juices cost \$39.00. Let  $m$  represent the cost of one malt and  $p$  represent the cost of one prune juice, hence write down a pair of simultaneous equations to represent the information above. Hence determine
  - (a) The cost of a malt
  - (b) The cost of a prune juice

6. A lady bought 6 packs of Milk and 4 packs of Quaker Oats from a grocery and receives \$4.50 change from \$35. If she had bought 5 packs of Milk and 5 packs of Quaker Oats from the same grocery then she would have received \$3.50 change instead.

(a) State a pair of simultaneous equations that represents the information given above. Use: the cost per pack of Milk = \$m and the cost per pack Quaker Oats = \$q

(b) Calculate the cost of :

(i) a pack of Milk

(ii) a pack of Quaker Oats