1. 10 000 people attended a sports match. Let x be the number of adults attending the sports match and y be the number of children attending the sports match.

(a) Write down an equation in x and y.

(1)

The cost of an adult ticket was 12 AUD. The cost of a child ticket was 5 AUD.

(b) Find the total cost for a family of 2 adults and 3 children.

(2)

The total cost of tickets sold for the sports match was 108 800 AUD.

(c) Write down a second equation in x and y.

(1)

(d) Write down the value of x and the value of y.

(2)

(Total 6 marks)

2. Jacques can buy six CDs and three video cassettes for $163.17
or he can buy nine CDs and two video cassettes for $200.53.

(a) Express the above information using two equations relating the price of CDs and the price of video cassettes.

(b) Find the price of one video cassette.

(c) If Jacques has $180 to spend, find the exact amount of change he will receive if he buys nine CDs.

(Total 6 marks)

3. The cost c, in Australian dollars (AUD), of renting a bungalow for n weeks is given by the linear relationship $c = nr + s$, where s is the security deposit and r is the amount of rent per week.

Ana rented the bungalow for 12 weeks and paid a total of 2925 AUD.

Raquel rented the same bungalow for 20 weeks and paid a total of 4525 AUD.

Find the value of

(a) r, the rent per week;

(b) s, the security deposit.

(Total 8 marks)

4. Mal is shopping for a school trip. He buys 50 tins of beans and 20 packets of cereal. The total cost is 260 Australian dollars (AUD).

(a) Write down an equation showing this information, taking b to be the cost of one tin of beans and c to be the cost of one packet of cereal in AUD.

(1)

Stephen thinks that Mal has not bought enough so he buys 12 more tins of beans and 6 more packets of cereal. He pays 66 AUD.

(b) Write down another equation to represent this information.

(1)

(c) Find the cost of one tin of beans.

(2)

(d) (i) Sketch the graphs of these two equations.

(ii) Write down the coordinates of the point of intersection of the two graphs.

(4)

(Total 8 marks)

5. Vanessa wants to rent a place for her wedding reception. She obtains two quotations.

(a) The local council will charge her £30 for the use of the community hall plus £10 per guest.

(i) **Copy** and complete this table for charges made by the local council.

Number of guests (N)	10	30	50	70	90
Charges (C) in £					

(2)

(ii) On graph paper, using suitable scales, draw and label a graph showing the charges. Take the horizontal axis as the number of guests and the vertical axis as the charges.

(3)

(iii) Write a formula for C, in terms N, that can be used by the local council to calculate their charges.

(1)

(b) The local hotel calculates charges for their conference room using the formula:

$$C = \frac{5N}{2} + 500$$

where C is the charge in £ and N is the number of guests.

(i) Describe, **in words only**, what this formula means.

(2)

(ii) **Copy** and complete this table for the charges made by the hotel.

Number of guests (N)	0	20	40	80
Charges (C) in £				

(2)

(iii) On the same axes used in part (a)(ii), draw this graph of C. Label your graph clearly.

(2)

(c) Explain, briefly, what the two graphs tell you about the charges made.

(2)

(d) Using your graphs or otherwise, find

(i) the cost of renting the community hall if there are 87 guests;

(2)

(ii) the number of guests if the hotel charges £650;

(2)

(iii) the difference in charges between the council and the hotel if there are 82 guests at the reception.

(2)

(Total 20 marks)