

Linear equations Graded paper
4 Industrious

- (c) Adam, Imran and Shakeel were playing a card game.

Adam scored x points

Imran scored 3 points fewer than Adam

Shakeel scored twice as many points as Imran

Together they scored 39 points.

- (i) Write down, in terms of x , an expression for the number of points scored by Shakeel. (2 marks)
- (ii) Write an equation which may be used to find the value of x . (2 marks)

- (c) The cost of ONE muffin is $\$m$.
The cost of THREE cupcakes is $\$2m$.

- (i) Write an algebraic expression in m for the cost of:
- a) FIVE muffins (1 mark)
- b) SIX cupcakes (1 mark)
- (ii) Write an equation, in terms of m , to represent the following information.
- The TOTAL cost of 5 muffins and 6 cupcakes is $\$31.50$. (1 mark)

- (c) The table below shows the types of cakes available at a bakery, the cost of each cake and the number of cakes sold for a given day.

TYPE OF CAKE	COST (\$)	NO. OF CAKES SOLD
Sponge	$(k+5)$	2
Chocolate	k	10
Fruit	$2k$	4

- (i) Write an expression, in terms of k , for the amount of money collected from the sale of sponge cakes for the day. (1 mark)
- (ii) Write an expression, in terms of k , for the TOTAL amount of money collected. (2 marks)

The total amount of money collected at the bakery for the day was $\$140.00$.

- (iii) Determine the value of k . (2 marks)

- (d) A drinking straw of length 21 cm is cut into 3 pieces.
 The length of the first piece is x cm.
 The second piece is 3 cm shorter than the first piece.
 The third piece is twice as long as the first piece.
- (i) State, in terms of x , the length of EACH of the pieces. (2 marks)
- (ii) Write an **expression**, in terms of x , to represent the sum of the lengths of the three pieces of drinking straw. (1 mark)
- (iii) **Hence**, calculate the value of x . (3 marks)

- (d) The students in a class sell donuts to raise money for their school project. The donuts are sold in small and large boxes. The number of donuts in EACH type of box is given in the table below:

Type of Box	Number of Donuts per Box
Small box	x
Large box	$2x + 3$

The students sold 8 small boxes and 5 large boxes in all.

- (i) Write an expression in terms of x to represent the TOTAL number of donuts sold. (2 marks)
- (ii) The total number of donuts sold was 195. Calculate the number of donuts in a
- a) small box
- b) large box. (4 marks)
- (c) 500 tickets were sold for a concert. Of these x tickets were sold at \$6 each, and the remainder at \$10 each.
- (i) Write an expression, in terms of x , for
- a) the number of tickets sold at \$10 each (1 mark)
- b) the TOTAL amount of money collected for the sale of the 500 tickets. (1 mark)
- (ii) The sum of \$4108 was collected for the sale of the 500 tickets.
 Calculate the number of tickets sold at \$6 each. (3 marks)