

**LC 2016 (SET A): PAPER 1****QUESTION 3 (25 MARKS)****Question 3 (a)**

$$3(x-7) + 5(x-4) = 15$$

$$3x - 21 + 5x - 20 = 15$$

$$3x + 5x = 15 + 21 + 20$$

$$8x = 56$$

$$x = \frac{56}{8} = 7$$

**Question 3 (b)**

$$4a + 3b = -3$$

$$5a = 25 + 2b$$

$$4a + 3b = -3 \dots (1) (\times 2)$$

$$5a - 2b = 25 \dots (2) (\times 3)$$

$$8a + 6b = -6$$

$$15a - 6b = 75$$

$$\underline{23a} = 69 \Rightarrow a = 3$$

$$\text{Into (1): } 4(3) + 3b = -3$$

$$12 + 3b = -3$$

$$3b = -15 \Rightarrow b = -5$$

$$\therefore (a, b) = (3, -5)$$

**Question 3 (c)**

$$2(2x-3) + 6x < 25$$

$$4x - 6 + 6x < 25$$

$$4x + 6x < 25 + 6$$

$$10x < 31$$

$$x < \frac{31}{10}$$

$$x < 3.1, x \in \mathbb{N}$$

$$\therefore x = 1, 2, 3$$

**MARKING SCHEME NOTES****Question 3 (a) [Scale 5C (0, 2, 4, 5)]**

- 2: • Any correct multiplication  
• Correct answer no work
- 4: • Both multiplications done correctly and fails to finish  
• Error in expanding brackets and finishes correctly

**Question 3 (b) [Scale 10B (0, 3, 10)]**

- 3: • Some correct work in solving

**Question 3 (c) [Scale 10C (0, 2, 5, 10)]**

- 2: • Any correct step  
• Correct answer without work
- 5: • Solves for  $x$   
• Error in multiplication but finishes correctly