

1. Solve the simultaneous equations

$$\textcircled{1} \quad x + 3y = 12$$

$$\textcircled{2} \quad 5x - y = 4$$

$$\textcircled{2} \times 3$$

$$5x - y = 4$$

($\times 3$) ($\times 3$)

$$\textcircled{3} \quad 15x - 3y = 12$$

$$\textcircled{2} + \textcircled{3}$$

$$\begin{array}{r} x + 3y = 12 \\ 15x - 3y = 12 \quad + \\ \hline 16x \quad = 24 \\ (\div 16) \quad (\div 16) \\ x = 1.5 \quad \checkmark \end{array}$$

$$\begin{array}{r} 1.5 + 3y = 12 \\ (-1.5) \quad (-1.5) \\ \hline 3y = 10.5 \\ (\div 3) \quad (\div 3) \\ y = 3.5 \quad \checkmark \end{array}$$

$$x = 1.5$$

$$y = 3.5 \quad \checkmark$$

(Total for Question is 3 marks)

2. Solve the simultaneous equations

$$\begin{aligned} \textcircled{1} \quad & 5x + y = 21 \\ \textcircled{2} \quad & x - 3y = 9 \end{aligned}$$

$$\textcircled{1} \times 3$$

$$5x + y = 21$$

$$\downarrow \times 3 \quad \downarrow \times 3$$

$$\textcircled{3} \quad 15x + 3y = 63$$

$$\textcircled{2} + \textcircled{3}$$

$$x - 3y = 9$$

$$15x + 3y = 63 \quad +$$

$$16x = 72 \quad \checkmark$$

$$\downarrow \div 8 \quad \downarrow \div 8$$

$$2x = 9$$

$$\downarrow \div 2 \quad \downarrow \div 2$$

$$x = 4.5$$

$$x - 3y = 9$$

$$\text{When } x = 4.5$$

$$4.5 - 3y = 9$$

$$+3y \quad +3y \quad \checkmark$$

$$4.5 = 9 + 3y$$

$$-9 \quad -9$$

$$-4.5 = 3y$$

$$\div 3 \quad \div 3$$

$$-1.5 = y$$

$$x = 4.5$$

$$y = -1.5 \quad \checkmark$$

(Total for Question is 3 marks)