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$$(a) \begin{cases} 2x + 3y = 31 & (1) \\ 5x - y = 1 & (2) \end{cases}$$

Multipluera ekvation (2) med 3:

$$\begin{cases} 2x + 3y = 31 \\ 3(5x - y) = 1 \cdot 3 \end{cases}$$

$$\begin{cases} 2x + 3y = 31 \\ 15x - 3y = 3 \end{cases}$$

Addera ledvis:

$$17x = 34$$

$$x = \frac{34}{17}$$

$$x = 2$$

$$\begin{aligned} \text{VL} &= 2x + 15x + \underbrace{3y + (-3y)}_{=0} = 2x + 15x = 17x \\ \text{HL} &= 31 + 3 = 34 \end{aligned}$$

Insättning i ekv. (2) ger

$$5 \cdot 2 - y = 1$$

$$10 - \overset{+y}{y} = \overset{+y}{1}$$

$$10 = \overset{-1}{1} + \overset{-1}{y}$$

$$9 = y$$

$$y = 9$$

$$\underline{\underline{\text{Svar:}}} \begin{cases} x = 2 \\ y = 9 \end{cases}$$

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(pts.)

$$(b) \begin{cases} 2a + b = 6 & (1) \\ 3a - 2b = 2 & (2) \end{cases}$$

Multipluera ekvation (1) med 2:

$$\begin{cases} 2(2a + b) = 6 \cdot 2 \\ 3a - 2b = 2 \end{cases}$$

$$\begin{cases} 4a + 2b = 12 \\ 3a - 2b = 2 \end{cases}$$

Addera ledvis:

$$7a = 14$$

$$a = \frac{14}{7}$$

$$a = 2$$

Insättning i ekv. (1) ger

$$2 \cdot 2 + b = 6$$

$$4 + b = 6$$

$$b = 6 - 4$$

$$b = 2$$

$$\underline{\underline{\text{Svar:}}} \begin{cases} a = 2 \\ b = 2 \end{cases}$$

$$VL = 4a + 3a + \underbrace{2b + (-2b)}_{=0} = 4a + 3a = 7a$$

$$HL = 12 + 2 = 14$$