(a) Find the range of values of x for which $|x - 4| \geq 2$, where $x \in \mathbb{R}$.
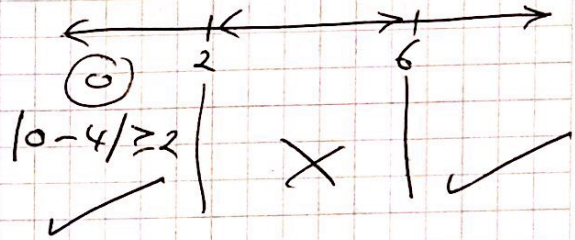
Solve $|x - 4| = 2$

$x - 4 = \pm 2$

$x = 6$ or $x = 2$

$|0 - 4| \geq 2$ ✓

$\boxed{x \leq 2 \quad \text{or} \quad x \geq 6}$

(b) Solve the simultaneous equations:

$$x^2 + xy + 2y^2 = 4 \quad \textcircled{1}$$
$$2x + 3y = -1. \quad \textcircled{2}$$

From $\textcircled{2}$ $x = \dfrac{-1 - 3y}{2}$

Sub in $\textcircled{1}$ $\Rightarrow \left(\dfrac{-1-3y}{2}\right)^2 + \left(\dfrac{-1-3y}{2}\right)y + 2y^2 = 4$

$\dfrac{1 + 6y + 9y^2}{4} + \dfrac{-y - 3y^2}{2} + 2y^2 = 4$

$1 + 6y + 9y^2 - 2y - 6y^2 + 8y^2 = 16$

$11y^2 + 4y - 15 = 0$

$(11y + 15)(y - 1) = 0$

$\boxed{y = -\dfrac{15}{11}}$ or $\boxed{y = 1}$

$\therefore x = \dfrac{-1 - 3\left(-\dfrac{15}{11}\right)}{2}$ $x = \dfrac{-1 - 3(1)}{2}$

$\boxed{x = \dfrac{17}{11}}$ $\boxed{x = -2}$