4a) $\sqrt{2x-3} = \sqrt{x^2-2x}$

$\Rightarrow 2x-3 = x^2-2x$

$\Leftrightarrow x^2-4x+3 = 0$

Möglichkeit a) Quadratisch Ergänzen

$x^2-4x+2^2-2^2+3 = 0$

$\Rightarrow (x-2)^2-1 = 0$

$\Rightarrow |x-2| = 1$

$x_1 = 3$

$x_2 = 1$

Möglichkeit b) Mitternachtsformel

$x_{1,2} = \dfrac{4 \pm \sqrt{16-12}}{2}$

$x_{1,2} = \dfrac{4 \pm 2}{2}$

$x_1 = \dfrac{6}{2} = 3 \qquad x_2 = \dfrac{2}{2} = 1$